MITSUBISHI ELECTRIC

Mitsubishi Electric Air Conditioning Network System
Integrated centralized control software TG-2000A
Operation Manual (Management)

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Before using the TG-2000A, please read this manual carefully to ensure proper operation.

Retain the manual for future reference.

WT03902X28
(Ver.6.5*)

In this manual, Microsoft® Windows® 8.1 Pro is called Windows 8.1, Microsoft® Windows® 7 Professional is Called Windows 7, and Microsoft® Windows Vista® Business is Called Windows Vista.
In this manual, Microsoft® Excel 2013/2010/2007 is called Excel.

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-About this manual-

The operation manual consists of three volumes, “Site adjustment”, “Management” and “Wide area”.
This manual is “Management”.

Site adjustment:
Contain initial setting procedures for TG-2000A (e.g., setup and system setting) and how to correct charging data and remedy.

Management (this manual):
Contain normal operation procedures for TG-2000A (e.g., Monitor/Operation function of air conditioners).

Wide area:
Contain setting/operation procedures of “Site change tool” and “Mail tool” for using TG-2000A in the wide area mode.
Refer to the manual “Management” for Monitor/Operation function of air conditioners.

These manuals are accessible from the Help menu on TG-2000A.

Adobe® Reader® is required to read these manuals. (Version 10 or later recommended)

-- **Term description** --

- "Man-machine" : Indicates a computer with integrated centralized control software TG-2000A. (Man-machine interface abbreviation)

- "Centralized controller" ("AE-200E," "AE-200A," "AE-50E," "AE-50A," "EB-50GU-J," "EB-50GU-A," "AG-150A," "AG-150A-A," "GB-50ADA-A," "GB-50ADA-J," "G-50A" or "GB-50A"):
  In this manual, "AE-200E" and "AE-200A" are referred to as "AE-200," "AE-50E" and "AE-50A" are referred to as "AE-50," "EB-50GU-J" and "EB-50GU-A" are referred to as "EB-50," "AG-150A" and "AG-150A-A" are referred to as "AG-150A," "GB-50ADA-A" and "GB-50ADA-J" are referred to as "GB-50ADA."
  The "AE-200" monitors and operates with the "AE-50" as a subordinate unit, but with the TG-2000A software, the "AE-200" and "AE-50" are each connected for monitoring and operation.
  With the "AG-150A", if the Expansion controller (PAC-YG50ECA) is connected, it is connected to the "AG-150A" for monitoring and operation.
  TG-2000A Ver.5.50 or later supports AG-150A connection.
  TG-2000A Ver.6.30 or later supports GB-50ADA-A and GB-50ADA-J connection.
  TG-2000A Ver.6.34A or later supports AG-150A-A connection.
  TG-2000A Ver.6.40A or later supports EB-50 connection.
  TG-2000A Ver.6.50 or later supports AE-200 and AE-50 connection.

- "Expansion controller" (EC) :A controller (PAC-YG50ECA) that is used when the number of units that AG-150A controls, such as indoor units, LOSSNAY and general equipments, exceeds 50.
  Each AG-150A unit can control up to a total of 150 units (when used with three expansion controllers).

- "PLC" : Abbreviation for Programmable Logic Controller.
  The TG-2000A system uses two PLCs; the electric amount count software and PLC for general equipment software.
  The electric amount count software measures the electric amount with the PLC, the general control operates and monitors the general equipment, etc.

- "Charge function” (Power apportioning):
  Charge function that apportions the electric amount used by the air conditioner.
  The following three methods are available:
  Manual electric amount input
  A watt hour meter (WHM) is not connected, and instead the charge percentage is calculated according to the percentage of power used. The service power is measured with the separately installed WHM, and the service charges are obtained from the charge percentage.
  Electric amount pulse count
  The electric amount is measured either by the PLC or PI controller, and the service electric amount is monitored by via the LAN to automatically apportion and calculate the electricity charges.
  To measure by the PLC, use the designated PLC and optional software.
  Direct read in of power value into computer
  The RS-485 output watt hour meter is directly connected to the computer containing the integrated centralized control software (via an RS-232-C/RS-485 converter), and the service power is input.
  The service power rate is automatically apportioned and calculated.

- "WHM" : Abbreviation for Watt Hour Meter.

- "Service power rate" : The service power rate indicates the power rate (apportioned rate) apportioned based on the service state of the air conditioner, etc.

- "Always connected to AG-150A/G-50A system - Activate": <recommended mode>
  Refers to charging method that is operated by connecting this integrated centralized control software TG-2000A constantly to the centralized controllers and PLC via a LAN. Leave the computer power ON to keep the TG-2000A running.
  PI controller instead of the PLC can be connected.

- "Always connected to AG-150A/G-50A system - Deactivate":
  Refers to charging method that connects this integrated centralized control software to the centralized controllers and PLC once a month via the LAN. The charges for the last month are calculated and output at once. The charge function can be used efficiently by starting the computer and integrated centralized control software TG-2000A on the day after the set settlement date.
  PI controller instead of the PLC can be connected.

- "IC I/O signal" : Refers to a contact mounted on the air conditioner's indoor unit. A general equipment can be connected to the IC I/O signal using this contact and a PLC for general equipment to operate and monitor the system.

- "DIDO controller" (DC) : Refers to the controller (PAC-YG66DCA) that can monitor or control general equipment.

- "AI controller" (MCT) : Refers to the controller (PAC-YG63MCA) that has a function to measure temperature and humidity.

- "PI controller" (MCP) : Refers to the controller (PAC-YG60MCA) that has a function to calculate cumulative pulses from such metering devices as watt-hour meter.

- "Air To Water (PWFY)" : Refers to Air To Water Booster Unit (BU) and Air To Water HEX Unit (AU) that can be connected to AE-200/AE-50/EB-50/AG-150A/GB-50ADA. G-50A cannot be connected.

- "HYBRID CITY MULTI" : Refers to Hydro BC controller (HBC) that can be connected to AG-150A Ver.2.80 or later and AE-200/AE-50. G-50A cannot be connected.

- "HWHP (CAHV)" : Refers to HWHP main (CEH) and HWHP sub (CL) that can be connected to AG-150A/GB-50ADA Ver.2.90 or later and AE-200/AE-50. EB-50 and G-50A cannot be connected.

- "Advanced HVAC CONTROLLER": Refers to Advanced HVAC CONTROLLER (AHC) that can be connected to AE-200/AE-50/EB-50. AG-150A/GB-50ADA/G-50A cannot be connected.

- **About screen** -

This instruction manual may use the development version screen in some case.

- Simple operation manual -

- The simple operation manual is stored as a pdf file in the "Manual" folder on the TG-2000A Setup CD. Adobe® Reader® (Version 10 or higher recommended) is required to view this pdf file.

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1. Safety Precautions

- Please read the Safety Precautions section very carefully before using the unit.
- The safety cautions provided here are very important for your safety. Please observe them at all times.
- The degree of danger involved with incorrect operation of the unit are indicated in this manual using the following symbols.

⚠WARNING	Incorrect operation could result in death or severe injury.
⚠CAUTION	Incorrect operation could result in injury or damage to property.

- After reading this information, please keep this manual together with the operation manual (site adjustment manual) in a location where the operator can see it. Also, when changing operators give both of these manuals to the new operator.

Note:
- **Please observe the safety precautions detailed in the installation manuals and operation manuals of the other machines such as computers, peripherals, and air conditioners.**

⚠WARNING

The customer must not do any wiring or electrical work.
Have the dealer or a specialist do any wiring or electrical work. Do not do it yourself. Doing the work yourself may result in improper installation which may cause electric shock or fire.

Do not relocate the unit yourself.
Relocating the unit yourself may result in incorrect installation which may cause electric shock or fire.
To relocate the unit, consult the company from which the unit was purchased.

Do not make any improvements or repairs for any reason.
Making improper improvements or repairs may cause electric shock or fire. For repairs, consult the company from which the unit was purchased.

Read the installation manuals and operation manuals for the computer, peripherals and other machines.
Improper operation could result in fire or damage to the computer or peripherals.

Stop operation immediately if an error message appears on the computer and the unit stops or is not operating properly.
Failing to do so may result in fire or damage to the unit.
Immediately contact the company from which the unit was purchased.

Read the installation manual and operation manual for the air conditioner controller.
Improper operation could result in fire or damage to the air conditioner controller.

⚠CAUTION

Do not use the product for any other purpose.
This product is for use with the Mitsubishi Electric Building Air Conditioning Control System. Do not use it with any other air conditioning control system or for any other application. Doing so may cause the unit to malfunction.

Keep children away from the unit.
Inspections and maintenance can be dangerous. Do not let children near the unit during these times.

Do not use with other applications.
Use the computer that uses this product with this product only.
Using it with other applications may cause faulty operation.

Warning to all users (User Agreement)
This document is a contract between the customer and Mitsubishi Electric Corporation. By using this application, you agree to the following conditions and are considered a user.
- Mitsubishi Electric and associated suppliers are not responsible for any collateral, secondary, or special damages, even if notified by the distributor of the possibility of a certain type of damage. Mitsubishi Electric is not responsible for any rights claimed by a third-party.

Safety Guidelines for the Computer Running with the TG-2000A.

(1) Precautions for selecting a computer

Select a desktop computer.
- Depending on the function, it is recommended to use a desktop as opposed to a laptop computer as there is a tendency for heat to build up in a laptop.
- Some laptop computers cannot be run for long hours.

Computer based UPS recommended.
- It is recommended to use a UPS to protect data from momentary power outages or power cuts. It is particularly recommended to employ a UPS when using charge function (power apportioning).

Use a computer/operating environment with specifications capable of running the TG-2000A function.
- Run the function using the specified OS. There is a possibility that the function cannot be used when running an OS other than specified.
- **Use a business model computer.** There are cases when it is not possible to install or run the application with other applications on a computer or laptop intended for personal use.

(2) Precautions for General usage

Do not place the computer in any of the following locations.
- An error or accident may occur when using in the following environments.

  A place where there is: a lot of dust, a likelihood of shock or vibration, instability, a heater or speaker nearby, direct exposure to sunlight, a likelihood of dropping, a possibility that the computer may be exposed to moisture or high temperature, or where it may be exposed to sudden temperature fluctuations or heat.

Do not close the lid when using a laptop.
- There is a possibility of an internal temperature build-up, fire or burning. Use in an area with sufficient ventilation.
- The system may start Stand By or Hibernate function and stop functions of TG-2000A by closing the lid.

Do not touch the computer air vent.
- The air emitted by the ventilator is hot and may result in burning if exposed to the skin.

Do not tamper with the computer fan.
- Tampering with the computer fan may result in a temperature build-up, fire, or accident.

Ensure to read the computer / peripheral instruction manual.
- A fire or accident may occur due to improper use of the equipment.

Avoid covering the computer or AC adapter with a cloth or blanket, or locating them on or near a heater.
- There is a possibility of internal temperature build-up, fire or burning under the above situations.

Cut the power or disconnect the power cable immediately if smoke, or an abnormal smell or noise emanates from the computer.
- Using the computer in the above circumstances may result in fire, burning, or electric shock. Please consult the maker of the equipment/computer.

Use the hard disk, floppy disk, or CD media as indicated.
- Do not expose the hard disk, floppy disk, or CD to shock or vibration during use.
- Do not cut the power or reboot the computer while the hard disk, floppy disk, or CD is in use.
- Always turn OFF the power when moving the computer.

Reboot the PC periodically.
- The Windows operating system has an inherent potential for developing problems after running continuously for a while.

(3)Other precautions

Precautions relating to the computer and peripheral equipment
- Please consult the maker regarding damage to the computer or peripheral equipment. We will not be held responsible for damage occurring at the user's site.

Protecting the computer from virus attacks
- Take appropriate measures to avoid computer virus infections when saving or copying data via network connection or external media such as USB memory. Mitsubishi Electric shall not be held responsible for any damages that may result from computer virus infections.

Safety Guideline for LAN connection of the centralized controller

Connect the centralized controller to a private network.
- The centralized controller is designed to be used with TG-2000A on a private network.
- Use a security device such as a VPN (Virtual Private Network) router when connecting to the Internet.

2. Introduction

This integrated centralized control software TG-2000A is used to monitor/operate an air conditioner group with multiple centralized controllers connected.
The instruction manual for this integrated centralized control software TG-2000A consists of Site adjustment, Management (this manual), and Wide area.

Before using the integrated centralized control software TG-2000A, thoroughly read the following precautions. Also **read Chapter 13 "System Operation Precautions"**.

2.1 System Requirements

We recommend the following software and hardware when using this application (TG-2000A).

Item	Requirement		Recommended
PC	PC/AT compatible machine (Business model is recommended)		Operation confirmed using HP and Dell computers
CPU	Core™ 2 Duo 1.66GHz or faster		Core™ i3 1.6GHz or faster
Memory	In the case of Windows® 8.1 / 7 (64bit) : 2GB or more		4GB or more
	In the case of Windows® 7 / Vista® (32bit) : 1GB or more		2GB or more
OS	Windows® 8.1 Pro (64bit)		English version only Only compatible with "Pro" and "64 bit" versions of Windows® 8.1 Not compatible with Windows® 8
	Windows® 7 Professional (64/32bit) Service Pack 1 (*1)		English version only
	Windows Vista® Business (32bit) Service Pack 2 (*1)		English version only
HDD	Standard	6GB or more (2GB or more of C drive free space necessary)	40GB or more of C drive free space necessary when using the trend function. The drive used for automatic output must have the following free space according to the number of groups. 200 groups = 2GB, 500 groups = 5GB, 1000 groups = 10GB, 2000 groups = 20GB
	Wide area	20GB or more (Free space)	Standard : max. 200MB/site
Storage device	CD-ROM drive / DVD-ROM drive (*2)		Devices other than those shown at the left may also be installed.
Resolution	1024 × 768 or higher, 65536 colors or more		
Serial port	1 port or more		Required when using RS-485 communication WHM (Not necessary when using PLC)
LAN	1 port (100BASE-TX /10BASE-T)		(*3)
Modem	56K modem or TA		Required when using a modem in wide area mode.
USB	2 port or more		For the data backup.
Other	Computer must be dedicated for this use (TG-2000A).		**Must be used for 24-hour constant operation (*4)**

*1: It is necessary to correspond to each Service Pack. TG-2000A is not normally set up at the uncorrespondence. Please apply Service Pack of the correspondence.
*2: To set up ".NET Framework 3.5" using the Windows® 8.1 setup disk (DVD), a DVD-ROM drive is required.
*3: Purchase the option, or use the equipment recommended for the computer when purchasing the computer.
*4: Reboot the computer where TG-2000A is installed, once a week.

2.2 Preoperation Check List

(1) Installation conditions check

Check the wiring, connection, initial settings etc of the computer and peripheral devices. Verify that each device is installed in accordance with its installation and instruction manuals.

(2) Site adjustment check

Before using the system, make sure that the initialization and test running described in the Operation Manual (Site adjustment) are complete. Back up the system information database after initialization and test run were performed.

(3) Printer check

When this system is used with a printer, leave the printer power on and check that there is paper in the printer.

(4) PLC check

To use the charge function (electric amount pulse count) or general equipment, turn the PLC power ON and stay in the RUN state. Make sure that each software is installed in the PLC and that initialization has been executed from the integrated centralized control software TG-2000A.

(5) Optional functions of the centralized controller

The optional functions of the centralized controller will include “Annual/weekly schedule”, “Charge calculation”, etc. The license number must be registered in each centralized controller to use the optional functions with this integrated centralized control software TG-2000A.

Optional function	AE-200/AE-50/EB-50 /AG-150A/GB-50ADA	G-50A
Monitor/operation function	Basic License Pack or Web Monitor	Web Monitor
Schedule function	Basic License Pack or Annual Schedule, Weekly Schedule	Annual Schedule, Weekly Schedule
Energy monitoring function	Energy Management License Pack *1	Charge *1
Energy saving function	Energy Management License Pack	Saving Energy control
Peak cut function	Energy Management License Pack	Saving Energy control (peak cut)
Personal browser function	Personal Web	Personal Web
PLC for general equipment function	PLC for General Equipment	PLC for General Equipment

*1 The Charge license registration is also required when the trend data for peak cut electric power (block) is set to be output.

Make sure that the license No. corresponding to the function to use is registered in the centralized controller.

Note:

- Refer only to the functions that have been purchased.
- Only option functions for which the license has been registered will work.
- By using this TG-2000A, the user agrees to the conditions of the License.

2.3 Items to Check before Starting Operation

(1) About the Windows (Reboot function)

- **Be sure to set the Reboot settings.**
  Reboot the PC periodically both manually and automatically.
  Refer to Section 8.3.2 Reliability Function in the Operation manual (Site adjustment) for how to set the Reboot settings.
- **Periodically (approx. once a week), shut down the TG-2000A and manually reboot the Windows.**
  Shut down the TG-2000A before rebooting the Windows.
  The Windows operating system has an inherent potential for developing problems after running continuously for a while.
- Perform manual reboot between 08:00 and 21:45.
- After the Windows was manually or automatically rebooted, check that the TG-2000A is operating properly.
- **Set the automatic login settings for the PC.**
  If the automatic login settings are not set, the TG-2000A will not automatically restart after the PC is rebooted.
  (Refer to Section 5.1.2 Preparing for TG-2000A setup in the Operation manual (Site adjustment) for details.)
- The system manager is asked to ensure that the system operators are aware of the need to set the Reboot settings and to manually reboot the Windows periodically.
- Failing to reboot the Windows may cause certain functions of the TG-2000A (e.g., billing function and "Trend" function) to malfunction.

(2) Data backup

- It is recommended to back up the operation data to safeguard against accidental data loss.
  Refer to Appendix 5: Backing Up the System Setting Data in the Operation manual (Site adjustment) for the data backup procedures.

(3) Power supply processing

- When "Always connected to AG-150A/G50A system" is set to "Activate" (recommended setting) or the "Trend" function is used
  After installation and adjustment, do not turn off the power to the system devices and air conditioner including TG-2000A, except when a failure occurs, or when servicing the equipment.
  (Periodically reboot the TG-2000A according to the procedures outlined in section (1) About the Windows (Reboot function), even when the above functions are used.
  If the system devices or air conditioner power is turned off, a failure may be displayed. When the power is turned back on, the display will automatically return to normal.

- In all other cases
  After installation and adjustment, do not turn off the power to the system devices and air-conditioner, other than the TG-2000A, except when a failure occurs, or when servicing the equipment.
  If the system devices or air conditioner power is turned off, a failure may be displayed. When the power is turned back on, the display will automatically return to normal.

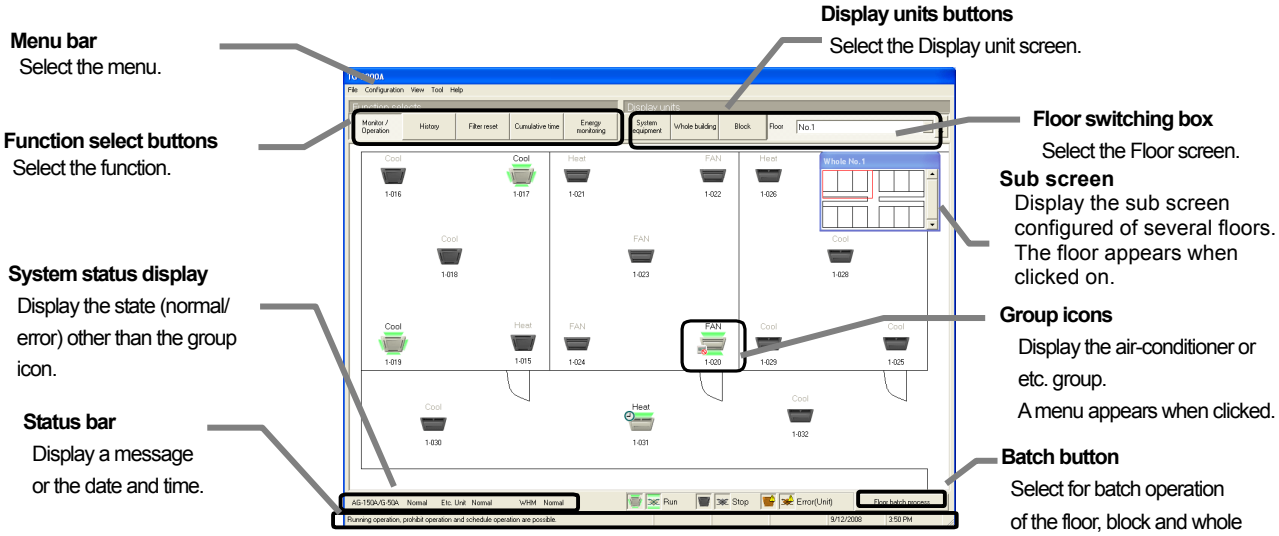
(4) Screen processing

The computer of TG-2000A, please do not use the screen saver.
The screen saver is not displayed while TG-2000A is active.

3. Names and Functions of Each Part

3.1 Screen Configuration

The Management screen consists of the following parts:


Menu bar
Select the menu.
Function select buttons
Select the function.
System status display
Display the state (normal/ error) other than the group icon.
Status bar
Display a message or the date and time.
Display units buttons
Select the Display unit screen.
Floor switching box
Select the Floor screen.
Sub screen
Display the sub screen configured of several floors. The floor appears when clicked on.
Group icons
Display the air-conditioner or etc. group.
A menu appears when clicked.
Batch button
Select for batch operation of the floor, block and whole building.

Management screen

Item	Details
Group icon	Display the state of the air conditioner or etc., and operates On/Off.
Function select buttons	Select the function.
Display units buttons	Select the display unit for each function.
Floor switching box	Switch the floor.
Status bar	Display the operation procedure message and current date/time.
System status display	Display the status (normal, abnormal) of the centralized controller, watt hour meter (WHM), PLC, and other units.
Sub screen	Display the sub floor configured of several floors. The sub floor can be selected with the scroll bar. When a section to be displayed is clicked, that floor will appear. (Option)

Note

- When AG-150A is connected to the expansion controllers (EC), "(G-50 No.) - (EC No.)" is displayed in the "G-50 No. (or AG-150A/G-50A No.)" field.
  - e.g. 1: When AG-150A is connected to expansion controllers, AG-150A No. is 1, and EC No. is 1, "G-50 No." will be "1-1".
  - e.g. 2: When AG-150A has no connection with expansion controllers, and AG-150A No. is 2, "G-50 No." will be "2".
  - e.g. 3: When G-50A No. is 3, "G-50 No." will be "3".

  Some screens display "G-50 No." and "EC No." separately. In this case, "EC No." will not be displayed in the "G-50 No." field.

3.2 Operations

Mouse operation

The following description assumes that a mouse is used as the pointing device. When using another pointing device, read the description for that device.
Operation on the screen is the same.
The keyboard can also be used to input characters and numbers.

Move the mouse while viewing the arrow (mouse pointer) on the screen.
Use the left mouse button only.

The following describes the operations:

Item	Details
Click	Pressing and releasing the mouse button once is called “click”. This operation is used when selecting a button.
Double click	Pressing and releasing the mouse button twice in rapid succession is called “double click”.
Drag	The mouse pointer is moved to an icon and the left mouse button is held down. When the mouse is moved in this state, the icon moves as if it were being dragged. This operation is called “drag”. The icon can be left at the new position by releasing the left mouse button.
Keyboard	Primarily used when entering password, characters, or numbers.

3.3 Functions Table

The integrated centralized control software TG-2000A has two major functions.

1) Function which monitors the operation status of the air conditioner and controls and sets the air conditioner.
2) Operation function and system initialization and maintenance function.

This section mainly describes function 1).
Function 1) consists of the items shown below. The screen that displays this function is called the “Management screen”.

Name	Function	Reference
Air conditioner on/off	On/off operation can be performed in group, floor, block, or whole air conditioner units. The operating status can also be monitored.	6.1, 6.2
General equipment On/Off (Option)	The general equipment can be turned On and Off, and the operation state can be monitored.	6.1, 6.2
Air conditioner control	Operation (heat/fan/cool/dry) can be switched and the room temperature can be adjusted in group, floor, block, or whole air conditioner units.	6.4
Prohibition of local remote controller operation	Operation can be permitted and prohibited from the local remote controller in group, floor, block, or whole air conditioner units.	6.4
History	The history of abnormalities and operation can be referenced in group, floor, block, or whole air conditioner units.	8.1
Cumulative time (Option)	The air conditioner cumulative operation time can be referenced for each group.	8.4
Schedule setting (Option)	Air conditioner operation can be scheduled for each group.	7
Air-conditioning charge monitor (Option)	The air-conditioning charge or ratio result for each block and watt hour meter can be displayed.	9
Trend data output (Option)	The trend data, such as the set temperature, intake temperature, meter and peak cut status history, can be output.	8.7, 8.8

* Some functions may unusable.

The following items are necessary when the system configuration was changed, but are not covered in this manual.
Change operation requires knowledge of system set-up. For the detailed contents and operating instructions, refer to the separate “Site Adjustment manual”.

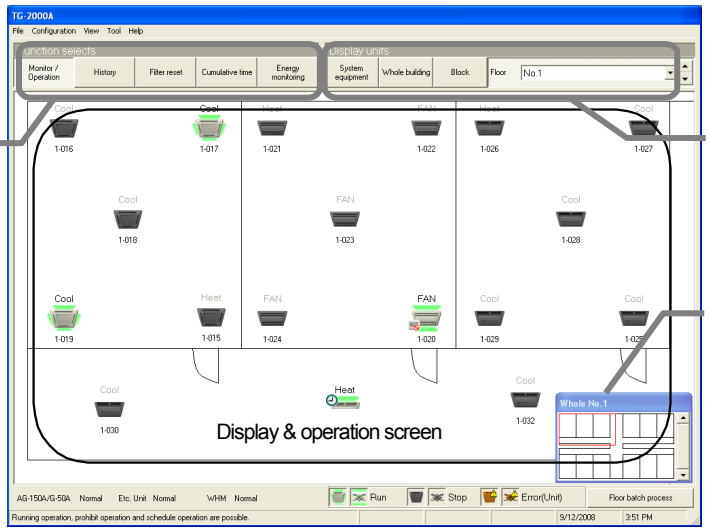
Name	Function
User set-up	Set the validity of the TG-2000A functions.
Centralized controller connection set-up	Register the number of centralized controller and Expansion Controller (EC). Register the IP address set to the centralized controller.
System configuration set-up	Perform connected devices, refrigerant system connection, group, operation mode and other functions settings and block and other settings.
DIDO, AI and PI controller set-up	Set the name, function, and measurement range and pulse value for each equipments, etc.
PLC for General equipment set-up	Set the IP address of PLC for general equipment and the general device's functions, etc.
IC I/O signal set-up	Set the general equipment connected to the IC I/O signal, etc.
Monitoring screen set-up	Set the type of unit, number of floors, plan view, layout of group icon, operation block, etc.
Watt Hour Meter set-up/ Measurement Meter set-up	Set the number of meters (WHM) and unit, etc.
Energy monitoring set-up	Perform various settings for air-conditioning charge calculation.
Charge set-up	Set the charge unit, time zone, basic charges, and seasonal period, etc.
Energy saving/peak cut set-up	The centralized controller for energy saving operation, the control state of the indoor units in each operation block, and the control status of each outdoor unit is set for energy saving.
Night mode set-up	The object and time which reduce outdoor unit operation sound are set up.
System-changeover set-up	Change mode is set up for the mode for every mode change block.
Others set-up	Set External temperature interlock control and Night setback control. (only AE-200/AE-50/EB-50/AG-150A/GB-50ADA)
Time set-up	Set the current time. (NOTE) This function should be used for TG-2000A.
Maintenance of charge data	Past charge data can be referenced.
Operation amount(/electric amount) data monitor	Monitor operation/electric amount data backed-up at the centralized controller.
Remedial apportioning setting	Remedy charge apportioning at WHM failure, etc.
Maintenance of comparison data for energy monitoring	Clear the apportioning comparison data when the centralized controller or PLC is replaced due to a fault, etc.
Test run for energy monitoring	Trial operation of the charging system can be completed easily in one day.

4. Screen Basic Operation

The function is selected with the function select buttons (top left-hand side of screen) and the operation object is displayed on the display & operation screen with the display units buttons (top right of screen).

4.1 Function Select Buttons and Display Units Buttons

This table shows which function display buttons and Display units buttons should be selected when performing an operation.


TG-2000A
Function select buttons
Select the monitor / operation, history, operation time, filter sign, and air-conditioner charge function
Display units buttons
Select the system equipment, whole building, block and floor display unit
Sub screen
Display the whole floor configured of several floors. The floor appears when clicked on.
Display & operation screen

Control screen

The **V** symbol indicates that the operation can be performed and the – symbol indicates that the operation cannot be performed.

Operation	Function select button	Display units buttons (display object)				
		Whole building	Block	Floor		System equipment *1
				Group	Floor	
On/off (Run/stop) switching	Monitor/Operation	V	V	V	V	–
Operation status (run/stop/abnormality) check	Monitor/Operation	V	V	V	V	V *2
Detailed setting of operation mode, temperature, etc.	Monitor/Operation	V	V	V	V	–
Operation prohibition setting from local remote controller	Monitor/Operation	V	V	V	V	–
Annual schedule, weekly schedule and today's schedule setting (Option)	Monitor/Operation	V	V	V	V	–
Temperature/humidity display	Monitor/Operation	–	–	–	V	–
Abnormality history and operation history check (Option)	History	V	V	V	V	V
Cumulative time check (Option)	Cumulative time	–	–	V	–	–
Filter sign reset	Filter reset	–	–	V	V	–
Energy monitoring (Option)	Energy monitoring	–	V	–	–	–

*1: System equipment includes Centralized controller, Expansion controller (EC), the units other than the indoor units and general equipment.
*2: Normal/abnormal display only.

4.2 Display Units Buttons Operation

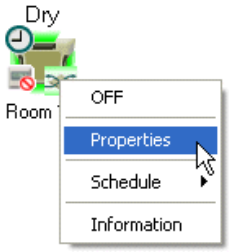
The methods of operating the air-conditioners in group units, block units and for the whole building, and the methods of operating the general equipment in group units and in batch units are explained in this section.

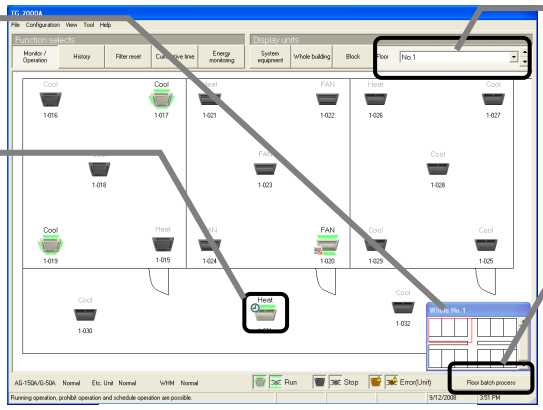
(1) Floor screen

On the floor screen, the air-conditioner (general equipment) can be turned on/off, the operation and schedule can be set and monitored, and the floor can be switched.

Sub screen
Display the whole floor configured of several floors. The floor appears when clicked on.

Icon selection menu
The selection menu appears when the icon is clicked. Click the item to be selected.

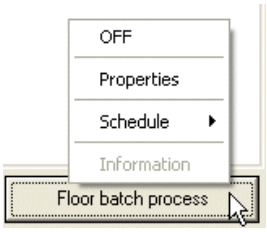




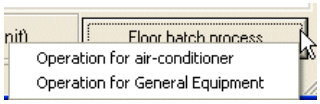
Floor screen

Floor switching box
Use the "▲/▼" buttons or combo box to select the floor to be displayed.

Floor batch button
Click this to operate the floors in a batch.

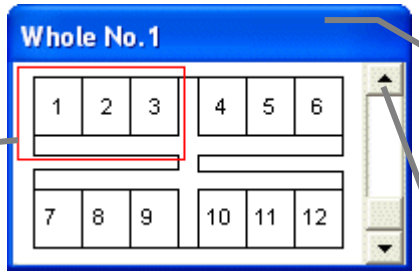


When controlling the air-conditioners and general equipment and the [Floor batch] button is clicked, the Air-conditioner operation and General equipment operation selection screen opens.
Select the target to be operated, and then select the items to be operated.



Either the Sub screen for several floors or the screen for a floor can be displayed on the Sub screen.
(The Sub screen can be displayed by selected "split floor" in the user settings.)

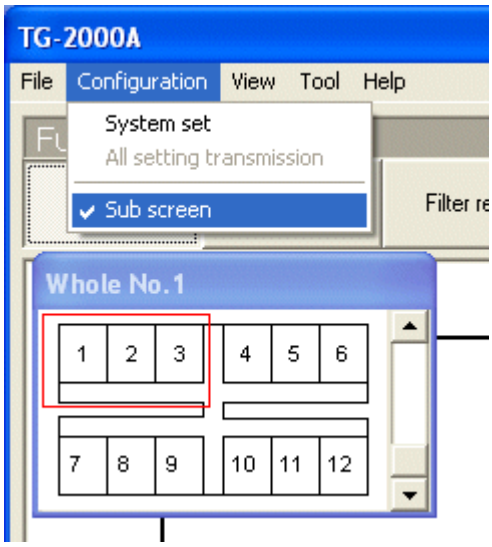
Floor selection
Using the cursor, select the floor to be displayed. That floor will appear when clicked on.



Display position change
The position where the whole floor is displayed can be moved by dragging.

Scroll bar
The whole floor can be selected with the scroll button.

Whether to show or hide the whole floor can be selected with "Configuration" - "Sub screen".

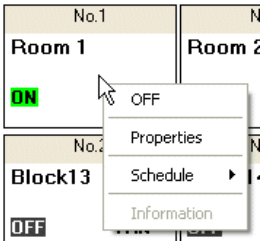


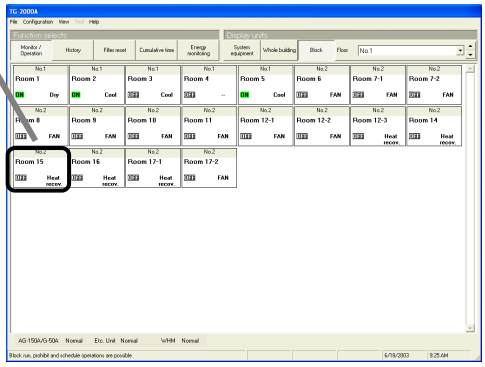
(2) Block screen

The air-conditioners can be operated and monitored in block units using the Block screen.

Block unit

The selection menu appears when the block is clicked. Click the item to be selected.

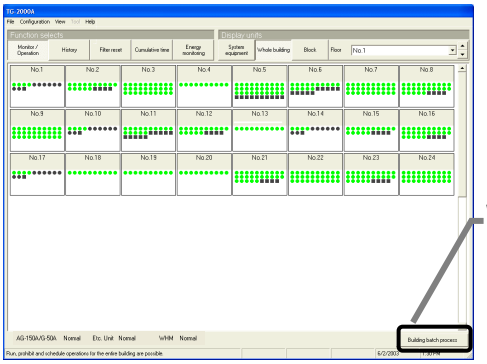




Block screen

(3) Whole building screen

The air-conditioners for the whole building can be operated and monitored using the Whole building screen.

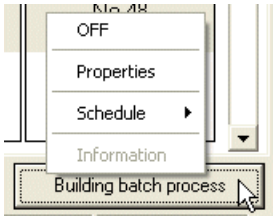


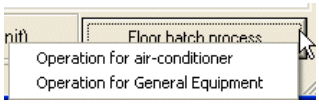
Whole building screen

Whole Building Batch button

Select this for batch operation of the whole building.

When controlling the air-conditioners and general equipment, the Air-Conditioner Operation and General Equipment Operation selection screen opens.

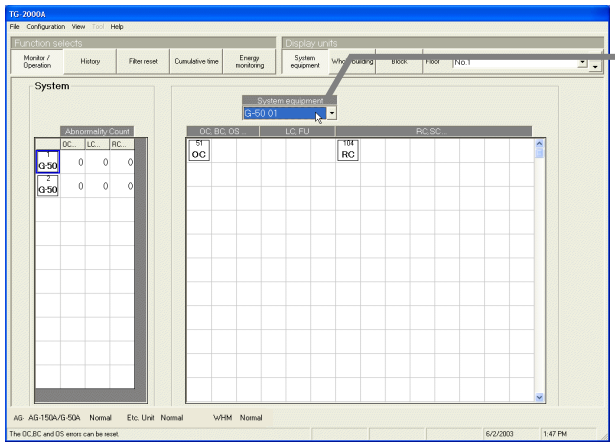




(4) System equipment screen

The units other than the indoor units and general equipment are displayed on the System equipment screen. The status (abnormal/normal) is displayed. If an air-conditioner indicated as abnormal is clicked, the error can be reset.

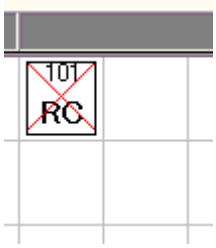
* If the cause of the abnormality is not removed, the abnormality will be detected again even if the abnormality is reset.



System equipment screen

Selection box

Select the target to be displayed.
Selection: Centralized controller, WHM, PLC



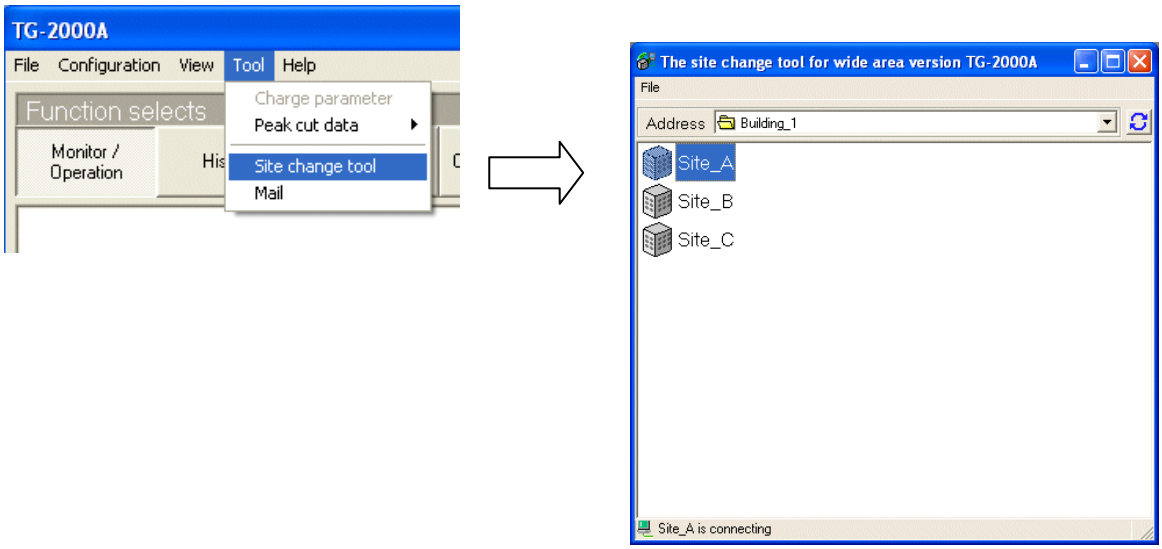
Abnormality state

Note

- Errors can be reset collectively for each centralized controller.
  After the errors are reset, the units will stop and may require manual operation.
- To reset errors for each group that the unit in error belongs to, set the group icon to OFF in the floor screen.

4.3 Display method for Site change display

The following is the display method for “Site change” display of wide area mode.
Use menu bar [Tool]-[Site change tool] to display “Site change” display.

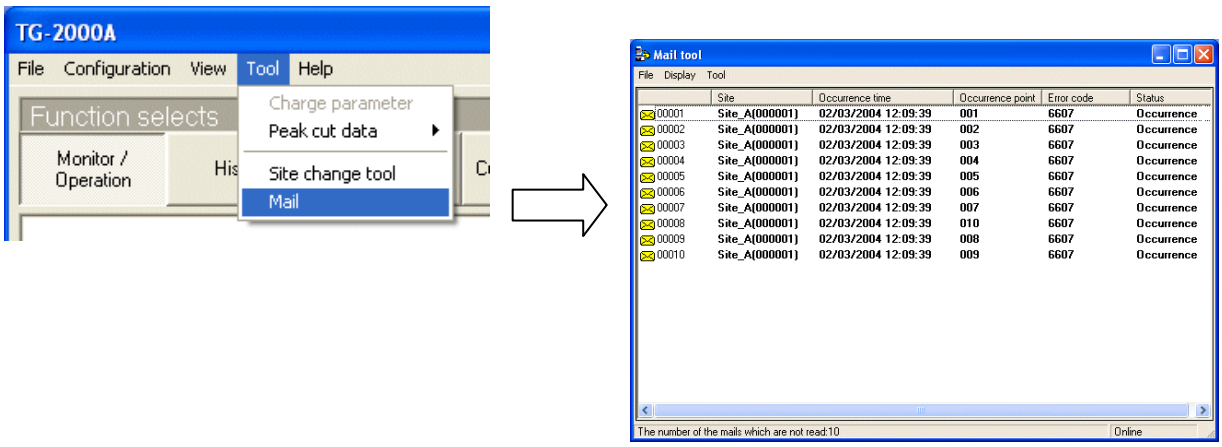


Management screen

Note:
- “Site change tool” can be selected only in wide area mode.
- For the usage of “Site change tool”, refer to the operation manual for wide area.

4.4 Display method for Mail display

The following is the display method for “Mail” display when using the received mail tool.
Use menu bar>Tool>Mail to display “Mail” Display.


TG-2000A
File Configuration View Tool Help
Function selects
Monitor / Operation
Charge parameter
Peak cut data
Site change tool
Mail
Mail tool
File Display Tool
Site Occurrence time Occurrence point Error code Status
00001 Site_A(000001) 02/03/2004 12:09:39 001 6607 Occurrence
00002 Site_A(000001) 02/03/2004 12:09:39 002 6607 Occurrence
00003 Site_A(000001) 02/03/2004 12:09:39 003 6607 Occurrence
00004 Site_A(000001) 02/03/2004 12:09:39 004 6607 Occurrence
00005 Site_A(000001) 02/03/2004 12:09:39 005 6607 Occurrence
00006 Site_A(000001) 02/03/2004 12:09:39 006 6607 Occurrence
00007 Site_A(000001) 02/03/2004 12:09:39 007 6607 Occurrence
00008 Site_A(000001) 02/03/2004 12:09:39 010 6607 Occurrence
00009 Site_A(000001) 02/03/2004 12:09:39 008 6607 Occurrence
00010 Site_A(000001) 02/03/2004 12:09:39 009 6607 Occurrence
The number of the mails which are not read:10
Online

Mail tool display screen

Note:
- “Mail” can be selected only when the mail function is used.
- For the usage of “Mail”, refer to the operation manual for wide area.

4.5 Startup and Shutdown

Start the TG-2000A application.

[Procedure]

1) Restart Windows

When Windows (OS) restarts, the user automatically logs on and the TG-2000A program starts.

* TG-2000A can also be started by selecting “TG2000” in the Windows Start Menu.

Startup screen

Note

- Use "Site change tool" to start up TG-2000A in the Wide Area mode. (Refer to the Operation Manual (Wide Area).)

TG-2000A Shutdown

[Procedure]

1) Select the End option in the File menu in the Menu Bar

Be sure to finish this program before the shutdown.

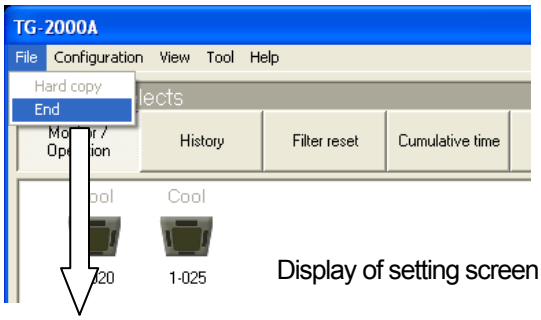
2) Input the password.

The password input screen appears. Input the password (default:”tglogout”), and click the [OK] button.

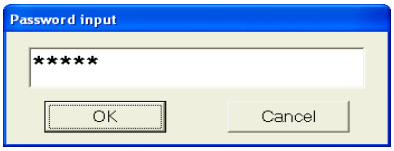
3) Select the [Finish] button.

The end confirmation window appears. Confirm the message on the window, and click the [Finish] button to finish this program.

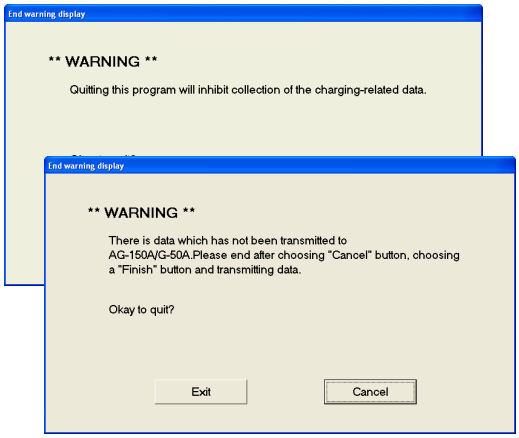
* To return to the initial setting screen, click the [Cancel] button.



Display of setting screen



Password input screen


End warning display
** WARNING **
Quitting this program will inhibit collection of the charging-related data.
End warning display
** WARNING **
There is data which has not been transmitted to AG-150A/G-50A.Please end after choosing "Cancel" button, choosing a "Finish" button and transmitting data.
Okay to quit?
Exit
Cancel

End confirmation window (with warning)

Maintenance Tip

- Always exit the TG-2000A application before turning off the PC. Failing to do so could result in damage.
- Note that when the TG-2000A application is exited, the functions used stop. When the charge calculation function (only for constant operation) is used, set the operation mode to TG-2000A 24-hour continuous operation.

5. Initialization Before Use

The items to be set or checked at the operation start-up are shown in this chapter. Set the functions being used.

5.1 Schedule Setting

For a description of the schedule setting method, refer to chapter 7. Schedule Setting.

5.2 Air-conditioning Charge Setting

When the [Energy monitoring] button in the function selection on the normal screen is clicked, the Air-conditioning charge screen opens.
The air-conditioning charges are initialized on this screen.

Note:
- If without charge is set, "Energy monitoring" cannot be selected. (It will not appear on the screen.)
- If the "Energy monitoring set-up" has already been set on the initial window, check the set details.
- The license number for the “Charge” must be registered in the all centralized controllers.

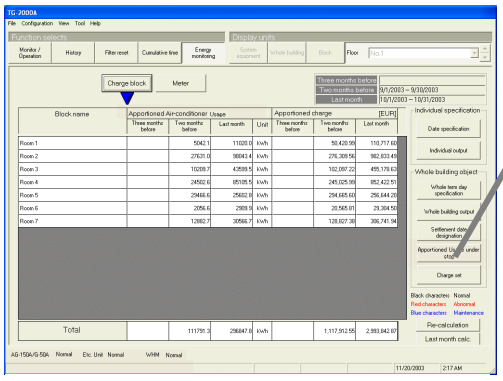
5.2.1 Charge Setting

The charge settings include the "Currency unit", "Basic charges", "Seasonal period", "Weekly charge", "Annual charge" and "Meter charge unit" and “settlement date”. Set each item.

Open the Charge Set screen

[Procedure]

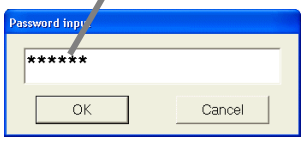
1) Click the [Charge set] button
   Click the [Charge set] button on the air-conditioning charge screen.
2) Input the password.
   Set the password (for maintenance user) on the Password screen, and then select the [OK] button.

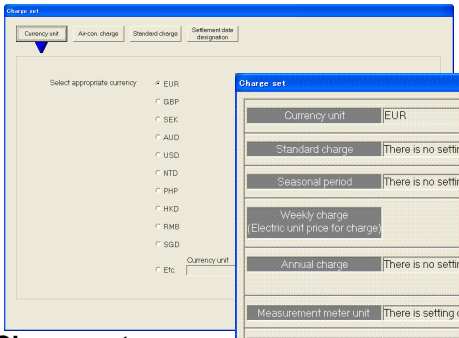


Air-conditioning charge screen

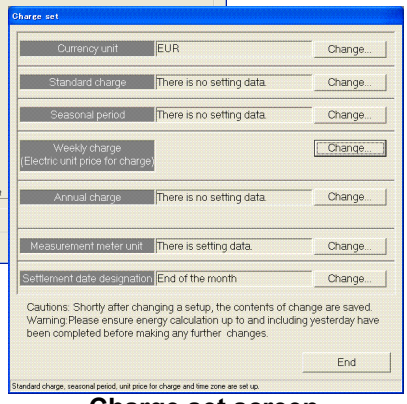
Charge setting button
Set the charges.

Password
Set the password
(for maintenance user).
* Refer to the Site Adjustment Manual Section 6.3 for details on the default values.





Charge set screen (For RS-485 WHM)



Charge set screen (For PLC WHM, PI controller WHM, and without WHM connection)

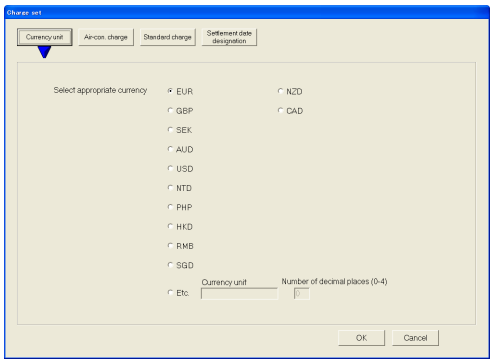
Note:
- Each item shown in the Site Adjustment Manual Energy monitoring set-up must be set. The power apportioning billing will not be calculated correctly if each item is not set.
- If the charge time zone setting is changed, the settings are valid after the changes.
- The changed charge settings will be applied to the charge calculation immediately. When changing the settings, be sure that the calculation for the previous days have completed.

[Using the RS-485 WHM]

Set the Currency unit

[Procedure]

1) Click the [Currency unit] button.
   Click the [Currency unit] button in the Charge Set screen. The currency unit set screen opens. This screen is also displayed when the currency Set screen is opened.
2) Select the currency unit to be used.
   Click the option box of the currency unit to be used. Otherwise, in “Etc.” column, set a currency unit (9 characters) and the number of digits to be displayed after the decimal point (0 to 4).



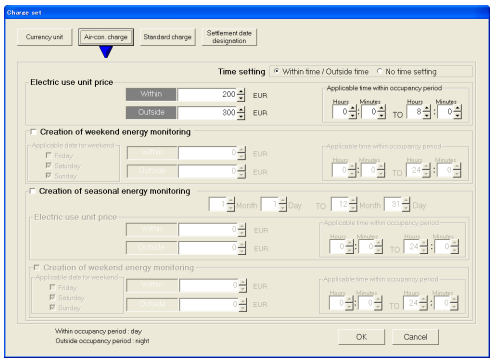
Currency unit set screen

Set the electric use unit price

Set the electric use unit price. One charge system can be selected from daytime/nighttime, weekend, seasonal charge, etc.

[Procedure]

1) Select the charge system to be used.
   Set the charge system by clicking the option button at the charge system you want to use.
2) Select the unit price and applicable time or applicable day of the week.
   Select the unit price, applicable time, applicable date, or applicable day of the week in accordance with the set charge system.
   Some of the data can also be input from the keyboard.



Charge set screen

Note:

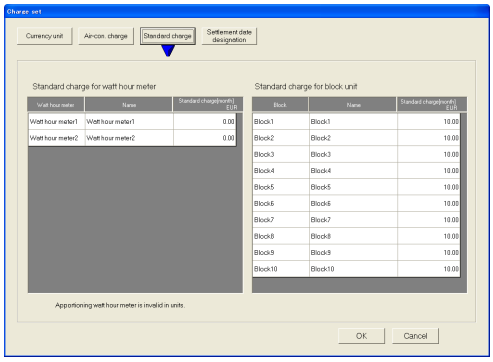
- Within a time (daytime) setting cannot span days.
- One within a time (daytime) setting per day is possible.

Set the standard (fixed) charge

Block units and watt hour meter units standard charge (per month) can be set. However, for standard charge in watt hour meter units, only the watt hour meter unit charge object (K controller, A controller, OA processing unit, etc.) can be set.

[Procedure]

1) Click the [Standard Charge] button.
   When the [Standard Charge] button on the Charge Set screen is clicked, the standard charge set screen opens.
2) Set the standard charge.
   Set the standard charge in watt hour meter or block units. For watt hour standard charge, only charge in watt hour meter units is the object.
   Standard charge can be input from the keyboard by clicking with the cursor.
   Clicking the standard charge allows the value to be input from the keyboard.



Standard charge set screen

Note:

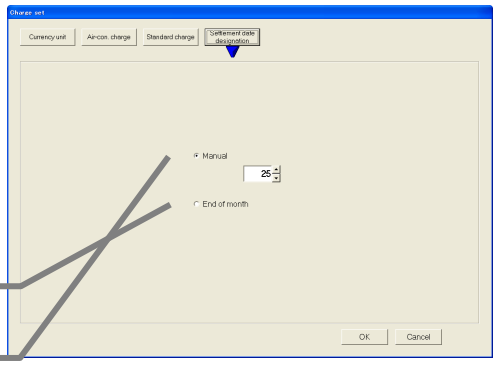
- When there is no WHM connection the watt-hour standard charge cannot be set.

Set the settlement date

Since the air-conditioning charge is calculated once a month, set the settlement date.

[Procedure]

1) Click [Settlement date designation] button.
   When the [Settlement-date designation] button at the screen is clicked, the Settlement-date designation setting screen opens.
2) Specify the settlement.
   To specify the end of month, click [End of month].
   To specify the actual date, click [Manual] and select the date by clicking the "▲/▼" buttons.
   * Numerical values can also be input from the keyboard.



Settlement data designation setting screen

Note:

- The 29th, 30th, and 31st cannot be set as the settlement-date designation. (However, they can be set as the end of month.)
- Automatic printing or file output is possible after settlement-of-accounts. (Refer to the Site Adjustment manual.)

Ending charge setting

[Procedure]

1) Click the [OK] button.
   *The set details are not updated if the [Cancel] button is selected.

Note:

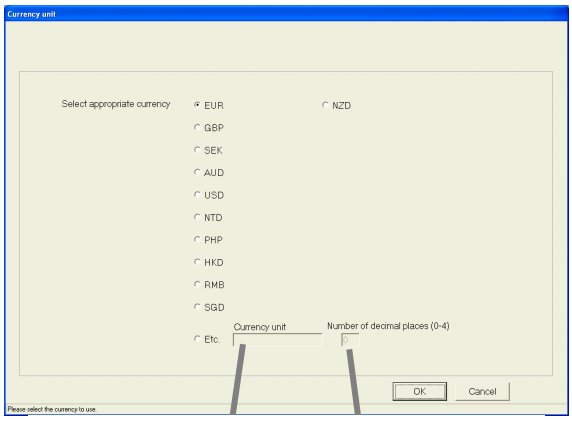
- When an item which must be set is not set, a caution message is displayed. Reset that item.

[Using PLC WHM or PI controller WHM, and without WHM connection]

Set the Currency unit

[Procedure]

1) Click the currency unit [Change] button.
   Select the currency unit [Change] button on the Charge Set screen to open the Currency Unit screen.
2) Set the currency unit.
   Select the currency unit from the list. If the required currency unit is not displayed in the list, select "Etc.", and enter the currency unit in the [Currency Unit] field. Enter the number of decimal places in the [Number of decimal places (0-4)] field.
3) Select the [OK] button to end the settings.
   * If the [Cancel] button is clicked on, the settings will be canceled and the Charge Set screen will open.



Currency unit setting screen

Currency unit setting

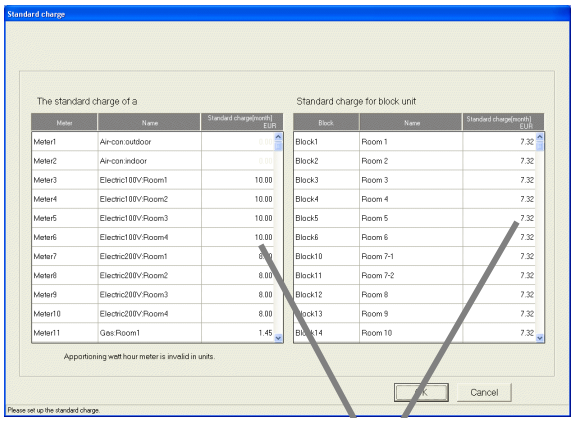
Number of decimal places

Set the basic charges

Set the basic charges (monthly charges) for the block unit and meter (WHM) unit.

[Procedure]

1) Select the basic charge [Change] button.
   Select the basic charge [Change] button on the Charge Set screen to open the Basic Charge screen.
2) Set the basic charges.
   * The basic charges cannot be set for the watt hour meter used for the air conditioner unit.
3) Select the [OK] button to end the settings.
   * The set details are not updated if the [Cancel] button is selected.



Basic Charge setting screen

Basic charge
Set the basic charge (monthly unit) for the block and meter unit.

Note:

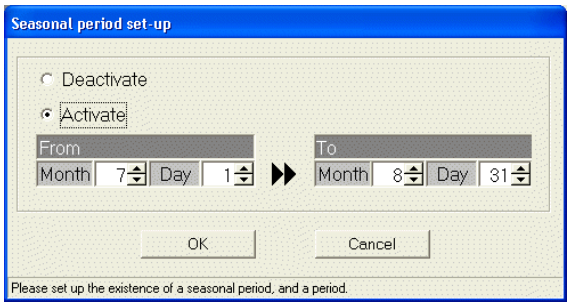
- This setting screen does not appear when using the power apportioning billing (manual electric amount input) with no WHM connected.
- If the basic charge is 0 when the [OK] button is selected, a message appears. Check the settings in this case.

Set the seasonal period

Set the validity of the seasonal period, and the period that the season is applied.

[Procedure]

1) Select the seasonal period [Change] button.
   Select the seasonal period [Change] button on the Charge Set screen to open the Seasonal period Setting screen.
2) Set the validity of the seasonal setting and the period.
   Select the validity of the seasonal charge setting, and if valid, set the period.
3) Select the [OK] button to end the settings.
   * The set details are not updated if the [Cancel] button is selected.



Seasonal period setting screen

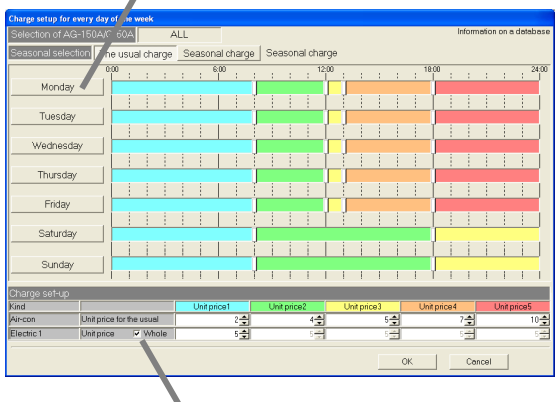
Weekly charge set-up

Set the weekly charge unit and each day's time zone for normal operation and season operation. If the seasonal period is not set, the "Usual charges" and "Seasonal charges" can be selected.

[Procedure]

1) Select the weekly charge [Change] button.
   Select the weekly charge [Change] button on the Charge Set screen to open the Weekly Charge Setting screen.
2) Set the charge unit and charge zones.
   Set the daily charge time zone and charge unit for the normal and season operation.
   - Charge unit: Maximum five units
   - Time zone: Maximum 10 zones (per day)
3) Select the [OK] button to end the settings.
   * The set details are not updated if the [Cancel] button is selected.

Set button
The charge unit time zone can be set, copied, pasted or canceled.



Weekly Charge setting screen

Charge unit
Set the charge unit.

Note:
- Refer to section 9.4 Air-conditioner charge setting for details on setting the details of the weekly charges.
- If the charge unit is 0 when the [OK] button is selected, a message appears. Check the settings in this case.
- Set the meter charge unit when using a meter.

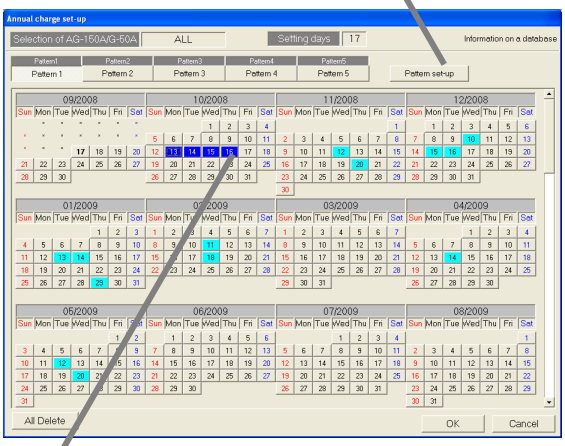
Annual charge set-up

The charge time zone for days that do not apply to the weekly charge settings, such as holidays and summer vacation, can be set. Up to five patterns, and 50 days can be set. The weekly charge unit is applied as the charge unit.

[Procedure]

1) Select the annual charge [Change] button.
   Select the annual charge [Change] button on the Charge Set screen to open the Annual Charge Setting screen.
2) Set the pattern and assign the date.
   Set the time zone and applicable unit, and assign the pattern to the date to be set.
3) Select the [OK] button to end the settings.
   * The set details are not updated if the [Cancel] button is selected.

Pattern Set/Change button
The setting window for setting the annual pattern opens when this button is clicked.



Annual Charge setting screen

Annual setting states
The state of the annual charge settings is displayed.
Blue : Settings for corresponding pattern
Light blue : Settings for other pattern

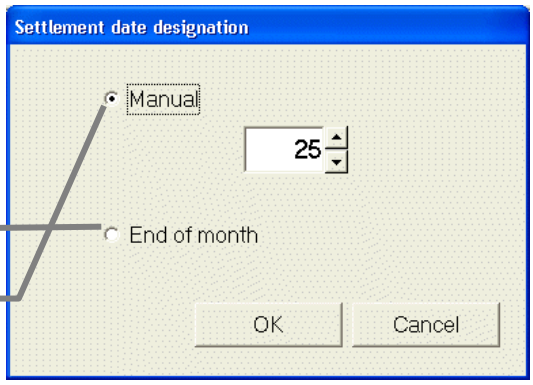
Note:
- Refer to section 9.4 Air-conditioner charge setting for details on setting the details of the annual charges.

Set the settlement date

Since the air-conditioning charge is calculated once a month, set the settlement date.

[Procedure]

1) Click [Settlement-date designation] button.
   When the [Settlement-date designation] button at the bottom right-hand side of the screen is clicked, the Settlement-date designation specification screen opens.
2) Specify the settlement.
   To specify the end of month, click [End of month].
   To specify the actual date, click [Manual] and select the date by clicking the "▲/▼" buttons.
   * Numerical values can also be input from the keyboard.
3) Click [OK] to end settlement-date designation setting.
   * If the [Cancel] button is clicked on, the settings will be canceled and the Management screen opens.



Settlement data designation specification screen

Note:

- The 29th, 30th, and 31st cannot be set as the settlement-date designation. (However, they can be set as the end of month.)
- Automatic printing or file output is possible after settlement-of-accounts. (Refer to the Site Adjustment manual.)

Ending the charge settings

[Procedure]

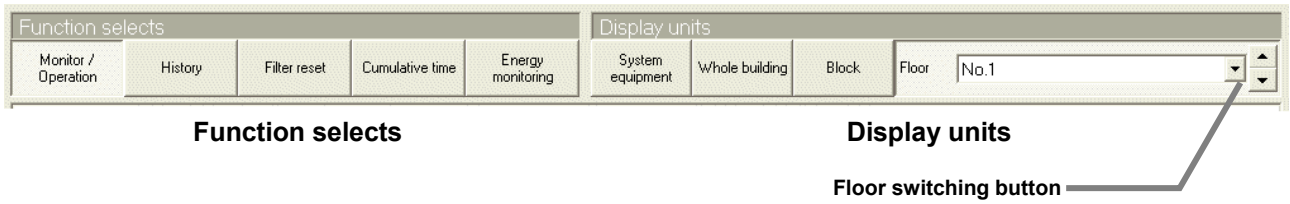
1) Select the [OK] button when completed with the settings.

6. Normal Operation

6.1 Monitor/Operation

Perform normal operation from the Management screen.

Display the Management screen by clicking the [Monitor/Operation] function select button (top left-hand side of screen), then selecting the operation object from the display units buttons (top right-hand side of screen). The “Cumulative time” and “Energy monitoring” are displayed when with charge function is selected.



(1) Select the function

When the [Monitor/Operation] function select button is clicked, the monitor/operation screen opens.

(2) Select the operation object.

[Procedure]

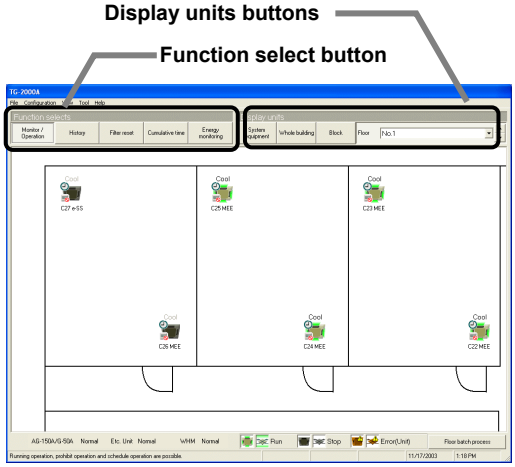
When group is the object

Operations from floor buttons

- Click the [Floor] button in screen display.
- Select the distribution floor of the object group from the floor switching box (left-hand side of screen).
- Click the object group icon on the displayed floor.

Operations from Whole floor screen

- Select the whole floor by scrolling from the Sub screen.
- Click on the target floor from the Sub screen (whole floor).
- Click the object group icon on the displayed floor.



Monitor/operation screen

When whole floor is the object

- Click the [Floor] button in screen display.
- Select the object floor from the floor switching box.
- Click the [Floor batch process] button at the bottom right-hand corner of the screen.

When block is the object

- Click the [Block] button in screen display.
- Select the object block from the monitor/operation screen.

When whole building is the object

- Click the [Whole building] button in screen display.
- Click the [Building batch process] button at the bottom right-hand corner of the screen.

When system equipment or Centralized controller is the object

- Click the [System equipment] button in screen display.
- Select the centralized controller connected to the object equipment from the centralized controller selection box pull down menu.
- Select the object system equipment from the monitor/operation screen.

6.2 On/Off Operation

Air conditioner On/Off operation is possible.

Block, floor batch, whole building, and other multiple group batch operations are also possible.

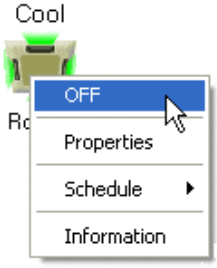
Operable objects: Group, floor batch, block, whole building

[Procedure]

1) Select the object to be turned on or off.
   Click the on/off object. A menu appears.

Note:

- For a description of the underlined part, refer to section “6.1 (2) Select the operation object” to be operated.



Example) Group operation

2) Select on/off.

If the selected object is currently running, [OFF] is displayed in the menu and if the selected object is stopped, [ON] is displayed in the menu.
When [ON] or [OFF] is selected from the menu, operation is switched.

Note:
- When multiple groups are the operation object, if at least one group is on, OFF operation has precedence.

Those ventilation units connected to air conditioners will turn on and off according to the on/off action of the air conditioners.
How the ventilation units behave depends on the versions of the TG-2000A, Cntralized controller.

【If connected to an AG-150A ver. 2.30 or later, or to an AE-200, AE-50 or EB-50】

Air conditioner On/Off operation (w/connection to ventilation units)	Ventilation unit	
	On/Off action according to air conditioner operation	Fan speed
On	On	The fan speed ([Hi]/[Lo]) previous to the air conditioners' On/Off status change is maintained.
Off	Off	-

【All other version combinations】

Air conditioner On/Off operation (w/connection to ventilation units)	Ventilation unit	
	On/Off action according to air conditioner operation	Fan speed
On	On	If the fan was on before air conditioners turned on: The fan speed ([Hi]/[Lo]) previous to the air conditioners' On/Off status change is maintained.
		If the fan was off before air conditioners turned on: The fan will operate at [Lo].
Off	Off	-

6.3 Operation Status Monitor

The air conditioner operation status can be monitored.
Operable objects: Floor, block, whole building, system equipment

(1) Display the operation status.

[Procedure]

1) Select the object whose operation status is to be displayed.

When the object whose operation status is to be displayed is clicked, the current operation status is displayed.

Note:
- For a description of the underlined part, refer to section "6.1 (2) Select the operation object" to be operated.

(2) Description of operation status

Floor display screen

Description of group icons (Air conditioner)

[Icon color] Green:On, Gray:Off, Orange:Error

Operation state

[Air conditioner group : On]

[Air conditioner group : Off]

[Ventilation group : On]

[Ventilation group : Off]

[Air conditioner group : On Interlocking ventilation unit : On]

[Air conditioner group : On Interlocking ventilation unit : Off]

[Air conditioner : Off Interlocking ventilation unit : On]

[Air conditioner group : Off Interlocking ventilation unit : Off]

[Air To Water (PWFY) group : On]

[Air To Water (PWFY) group : Off]

[Air conditioner group : Night setback On]

[Air conditioner group : Room temp. display]

Error state

[Air conditioner group error]

[Ventilation group error]

[Air To Water (PWFY) group error]

[Centralized controller error]

[Expansion controller error]

[Outdoor unit error]

[Subsidiary outdoor unit error]

[BC controller error]

[HBC controller(main) error]

[HBC controller(sub) error]

[K-transmission converter error]

Other state & display

[Local remote controller operation: Prohibited]

[With schedule setting]

[Schedule disabled]

[Filter sign]

[Air To Water (PWFY) group : Check water circuit]

[Operation prohibited state]

[Operation mode display]

[Display of group name]

[Energy save control]

*1: Icons on the screen may differ depending on the group icon settings.

*2: The room temperature of the air conditioner group appears only when the "Display of room temp." is set to "Activate" or "Drive only" in the user setting.

Note

- In the combination system of AE-200/AE-50, after recovery from the power outage or LAN communication error of the AE-50, about 10 minutes, icons of the air-conditioner which is connected to the AE-200 will be (orange) abnormal display, you will not be able to operate. Then, abnormal display is released, to return to the operation possible.

Note:

- When the mouse cursor is placed on the group icon, the group Full name is displayed.
- At stop, the operation mode and set temperature displays are hidden. (Gray characters display)
- When the indoor unit is in the operation prohibited state, it remains stopped.
  To reset the operation prohibited state, change the operation mode.
  Some models are unable to display this operation prohibited state.
- The filter sign is displayed only on the Filter sign screen.
- There may be a slight time lag in the marks displayed during energy saving control and the actual operation state. While on stand-by for energy save control, the “tree” symbol will not be displayed. If G-50A of Ver.2.90 or later and AE-200/AE-50/EB-50/AG-150A/GB-50AD are connected, the tree symbol will be displayed while outdoor units are under the control.
- If “Display of room temp.” in the user setting is set to “Drive only”, the room temperature is displayed only when air conditioning unit group is in operation. For Air To Water Booster Unit and Air To Water HEX Unit, the room temperature is always displayed even when “Display of room temp.” is set to “Drive only.”

Explanation of group icons（instrumental equipment）

[Icon color] Gray:Normal, Orange:Error

Operation status

[Thermometer/normal] [Hygrometer/normal] [Thermometer/detection limit] [Hygrometer/detection limit]

Error status

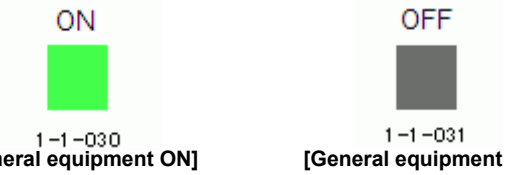
[Thermometer abnormal] [Hygrometer abnormal]

*1:Temperature value and humidity value are displayed in red when upper/lower limit warning is detected.
However, the temperature and humidity values are not displayed in red when the alarm display setting of AI controller is set to "Deactivate". The icons are also not displayed in orange in this case.

Explanation of group icons (DC for general equipment)

[Icon color] Color:On, Gray:Off, Orange:Error

Operation state

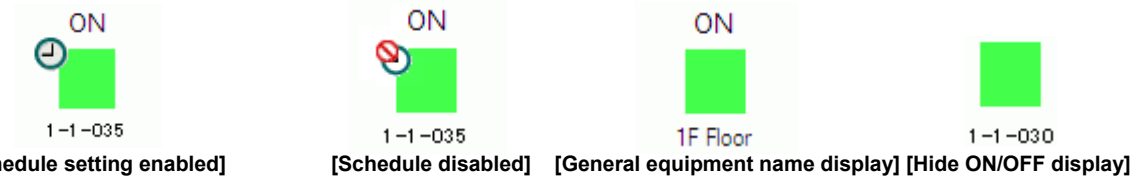


[General equipment ON] [General equipment OFF]

Error state

[General equipment error] [Centralized controller error] [Expansion controller error]

Other state & display



[Schedule setting enabled] [Schedule disabled] [General equipment name display] [Hide ON/OFF display]

Explanation of group icons (PLC for general equipment)

[Icon color] Green:On, Gray:Off, Orange(Default settings):Error *1

Operation state

[General equipment ON]

[General equipment OFF]

[Operation/monitor display]

[Operation display only]

Error state

[General equipment error]

[PLC error]

Other state & display

[Schedule setting enabled]

[Error details display *2]

[General equipment name display]

*1: The icon color is displayed in different color if the icon display color setting for general equipment is changed.

*2: Error state display can be set randomly. (Maximum: 8 characters)

Explanation of group icons (general equipment for IC I/O signal)

[Icon color] Green:On, Gray:Off, Orange:Error

Operation state

[General equipment ON]

[General equipment OFF]

[Operation/monitor display]

[Operation display only]

Error state

[General equipment error]

[Centralized controller error]

[Expansion controller error]

Other state & display

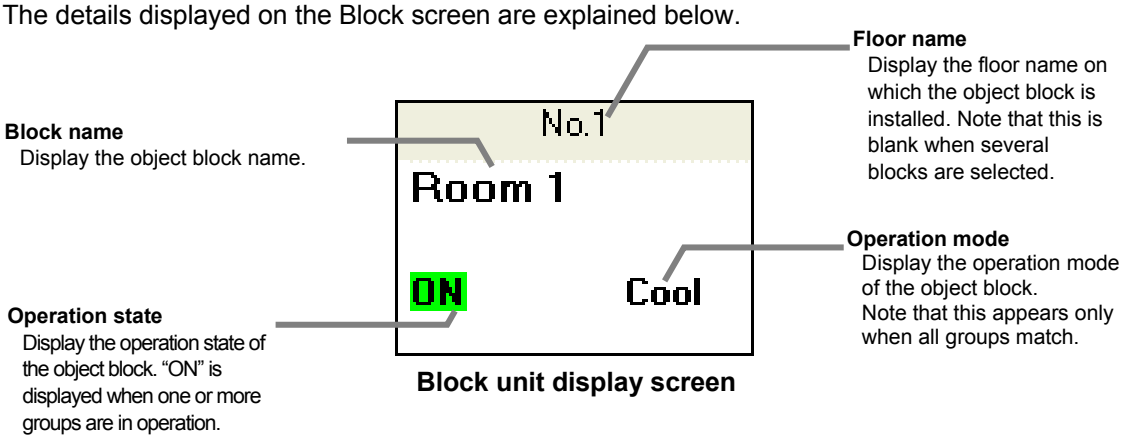
[Error details display *1]

[General equipment name display]

*1: Error state display can be set randomly. (Maximum: 8 characters)

(3) Block screen

The details displayed on the Block screen are explained below.


Floor name
Display the floor name on which the object block is installed. Note that this is blank when several blocks are selected.
Block name
Display the object block name.
No.1
Room 1
ON
Cool
Operation mode
Display the operation mode of the object block. Note that this appears only when all groups match.
Operation state
Display the operation state of the object block. "ON" is displayed when one or more groups are in operation.

Block unit display screen

Note:
- Block does not correspond to the "Only running ventilation unit on" display.
- The general equipment (PLC) is not block targets.
- The operation state is not displayed if the block consists of general equipment (DIDO) groups whose "Display ON/OFF character string" setting is set unchecked.

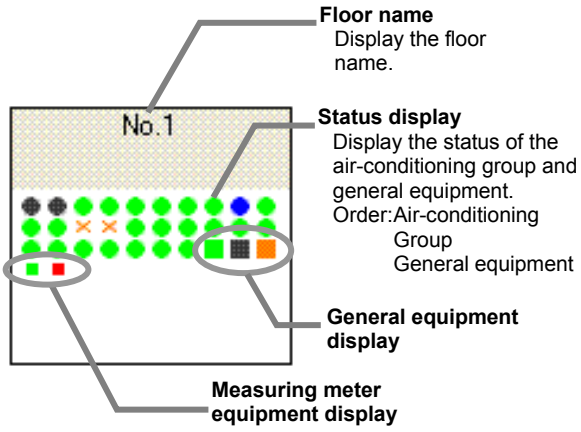
(4) Whole building display screen

The details displayed on the Whole building display screen are explained below.

[Air-conditioner group,
General equipment (DIDO) group display]
(Including Air To Water (PWFY))
- (Green) : Running (On)
- (Deep gray) : Stopped (Off)
- (Blue) : Only running ventilation unit on
- ✕ (Orange) : Abnormal

[General equipment
(PLC and IC I/O signal) display]
- (Green) : Running (On)
- (Deep gray): Stopped (Off)
- (Orange) : Abnormal

[Measuring meter equipment display]
- (Green) : Normal
- (Red) : Abnormal

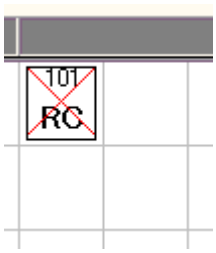


Floor unit display screen

Note:
- The icon display of air-conditioner group is also used for the general equipment connected to DIDO controller.
  The icon display of general equipment is also used for the PLC and IC I/O signal.

(5) System equipment display screen

When an equipment is abnormal, ✕ is displayed at the icon of the abnormal equipment.



6.4 Operation Details

Air conditioner operation mode switching, temperature adjustment, and other functions can be monitored and operated. Objects which can be monitored and operated: Floor, block, whole building

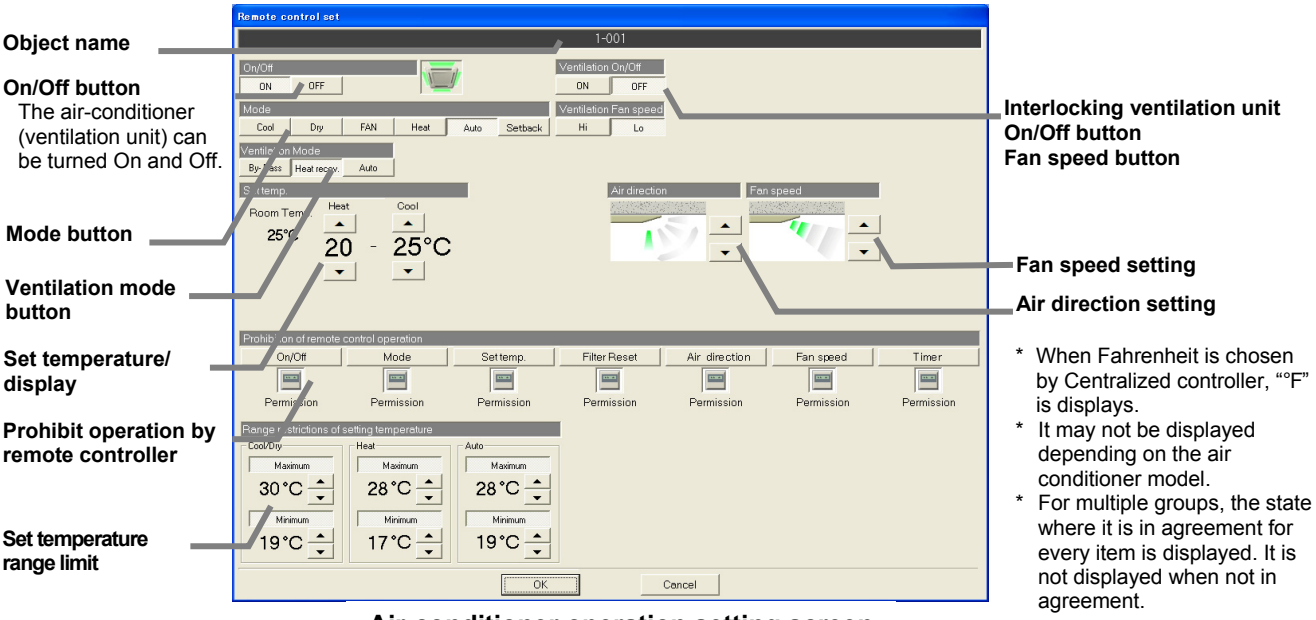
(1) Display the remote control screen.

[Procedure]

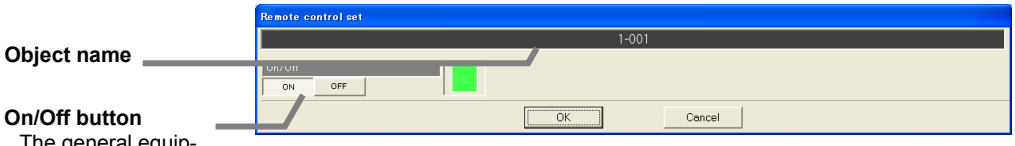
1) Select the operation setting.

Click on the group icon, floor batch, block or whole building batch button, and then select [Properties] from the menu. The Operation setting screen opens.

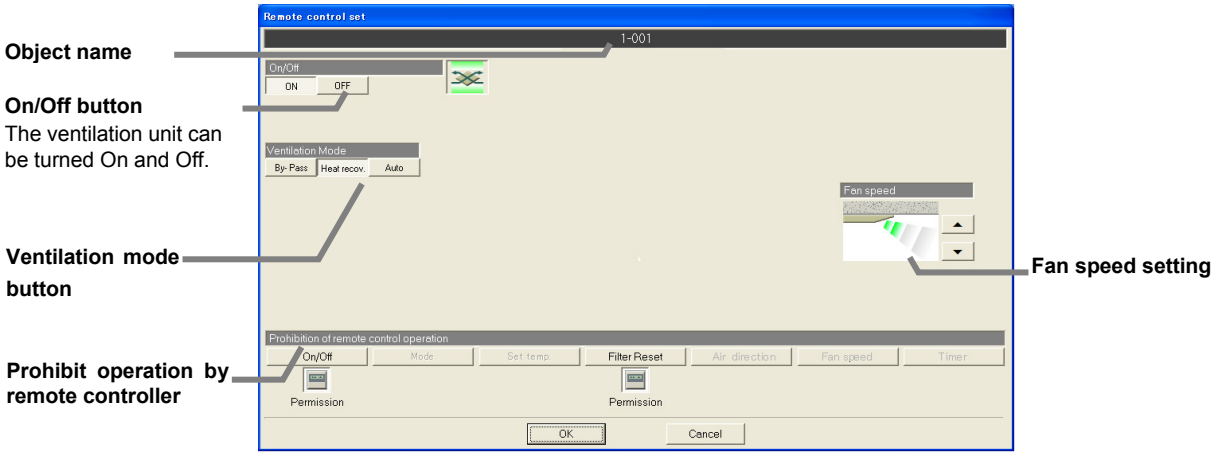
(2) Description of operation setting screen


Object name
On/Off button
The air-conditioner (ventilation unit) can be turned On and Off.
Mode button
Ventilation mode button
Set temperature/ display
Prohibit operation by remote controller
Set temperature range limit
Interlocking ventilation unit On/Off button
Fan speed button
Fan speed setting
Air direction setting
* When Fahrenheit is chosen by Centralized controller, "°F" is displays.
* It may not be displayed depending on the air conditioner model.
* For multiple groups, the state where it is in agreement for every item is displayed. It is not displayed when not in agreement.

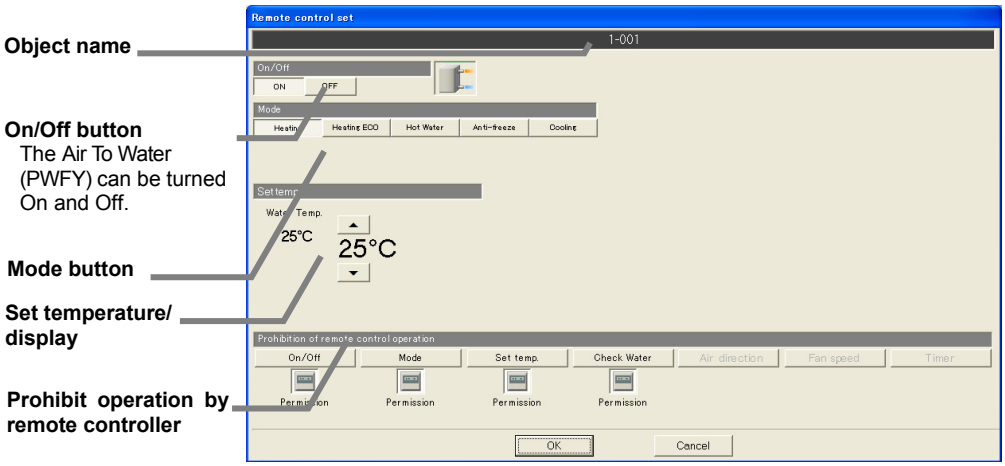
Air-conditioner operation setting screen



General equipment operation setting screen


Object name
On/Off button
The ventilation unit can be turned On and Off.
Ventilation mode button
Prohibit operation by remote controller
Fan speed setting

Ventilation unit operation setting screen

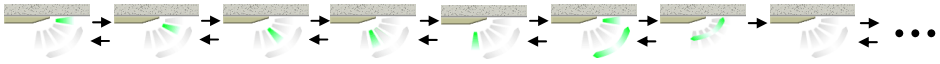
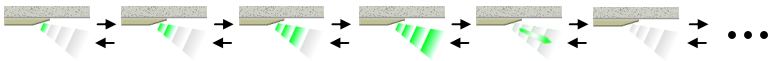


Air To Water (PWFY) equipment operation setting screen

Item	Details
Object name	Group : Display the group name (Full). Floor (batch) : Display the floor name. Block : Display the block name. Whole buildings : Display whole buildings. General equipment : Display the general equipment name (Full).
On/Off button	Display the current On/Off state. (The state for which the button is pressed indicates the current state.)
Mode button	Display the current operation mode. (The state for which the button is pressed indicates the current state.)
Ventilation mode button	The current mode of the Ventilation unit will appear. (The state for which the button is pressed indicates the current state.) * On the Air-conditioner operation setting screen, ventilation mode will appear only on TG-2000A Ver. 6.38 or later. On the Ventilation unit operation setting screen, ventilation mode will appear regardless of the TG-2000A version.
Interlocking ventilation unit On/Off button, Fan speed button	Display the current On/Off and fan speed state. (The state for which the button is pressed indicates the current state.) TG-2000A ver.6.20 or later: The ON/OFF status and the Fan speed ([Hi][Lo]) will appear. TG-2000A ver.6.10 or earlier: The operation status ([Hi][Lo][Stop]) will appear. * Note that it is not displayed for groups to which the interlocking ventilation unit is not connected.
Set temperature/display	Set temperature : Display the set temperature. * The set temperature is displayed in 1°C units. Indoor temperature : Display the current indoor temperature. Water temperature : Display the current water temperature. (Updated in approx. three minutes.)
Air direction setting	Display the current air direction.
Fan speed setting	Display the current fan speed.
Prohibit operation by remote controller	Display the operation prohibit setting state of the local remote controller. * Only the operation prohibited setting from the man-machine and the centralized controller is reflected upon display.
Set temperature range limit	Display the lower and the upper limit of the set temperature for the Cool (Dry) mode, for the Heat mode and for the Auto mode. (valid for ME remote controller and for simple ME controller) * The set temperature range is limited on the ME remote controller and individual browser's operation screen. * Only the lower limit of the set temperature for the Cool (Dry) mode and the upper limit for the Heat mode can be set with the PAR-F27MEA-E. * For ME remote controller, model name is written on the packing label or on the notice sticker on the backside of the remote controller lid. For ME simple remote controller, model name is written on the packing label or on the rated nameplate of the remote controller.

(3) Operation setting screen operation

Operation methods are shown below.

Item	Details
ON/OFF change	Click either the [ON] button or [OFF] button. The current state can be maintained without selecting both buttons.
Mode change	For the air conditioner, click the [Cool], [Dry], [Fan], [Heat], or [Auto] button. For the Air To Water (PWFY), click the [Heating], [Heating ECO], [Hot Water], [Anti-freeze], [Cooling] button. (In the Air To Water Booster unit, Cooling is nothing.) The current state can be maintained without selecting all the buttons. * Temperature setting cannot be set for [Fan] or [Heating ECO]. * Note that some modes may not be able to be set depending on the equipment model connected. * For K control models, all modes are displayed; however, choose only the modes that can be used.
Ventilation mode change	For the ventilation unit, click the [Bypass], [Heat-recovery], or [Auto] button. * Note that some modes may not be able to be set depending on the equipment model connected. * This function is only provided for ventilation unit, not for interlocking ventilation units.
Changing the interlocking ventilation unit On/Off, Fan speed	Details of operation and fan speed are set on the interlocking ventilation unit. Click the operation button ("ON" or "OFF") and the fan speed button ("Hi" or "Lo"), or leave the buttons unselected (maintains the current status). Depending on the version of the centralized controllers to be connected, the operational details of the interlocking ventilation unit may differ. AG-150A/GB-50ADA ver. 2.30 or later, AE-200, AE-50 or EB-50: If the fan speed is not set for unit operation, you can run the unit with the fan speed unchanged. (The fan speed can be changed for the "Stop" interlocking ventilation setting. However, this stops interlocking ventilation but does not change the fan speed setting. The changed fan speed setting is retained on the centralized controller.) AG-150A/GB-50ADA ver. 2.30 or later, G-50A: If the interlocking ventilation unit operating state is changed from stopped to running and the fan speed is not selected, the setting used is "ON" with the fan speed set to "Lo".
Set temperature change	Change the set temperature by clicking set temp. adjustment "▲/▼" buttons. * The range of temperatures that can be changed depends on the operation mode. This function is not provided for the ventilation group. * When displayed in Celsius, the temperature setting is in 1°C increments. * When displayed in Fahrenheit, 2°F steps or 1°F step depends on the indoor unit function to be connected. * If the indoor unit supports the dual set point function in the Auto mode and when the operation mode above is set to Auto or Setback, two set temperatures for Cool mode and Heat mode can be set. * On TG-2000A Ver. 6.40A or later, set the Mode before making the settings for Set temperature.
Air direction change	Click the "▲/▼" buttons to change the air direction.  Horizontal 20% vertical 60% vertical 80% vertical 100% vertical Swing Auto Keeping current state * Swing and air direction change are provided on different equipment models. * This function is not provided for the ventilation group and the Air To Water (PWFY).
Fan speed change	Click the "▲/▼" buttons to change the fan speed. Settable fan speed differs between the Air conditioner group and the Ventilation unit group.  Air conditioner Low Middle-2 Middle-1 High Auto Keeping current state Ventilation unit Low Low Low High Auto Keeping current state * The fan speed can be changed to 2, 3, 4 stages or AUTO depending on the equipment model. * This function is not provided for the Air To Water (PWFY).
Prohibit operation by remote controller change	The setting is changed to Permit, Prohibit, Keeping current state (without icon displayed), and Permit each time when each button for [On/Off], [Mode], [Set temperature], [Filter reset] ([Check water] in case of Air To Water (PWFY)), [Air direction], [Fan speed] and [Timer] is pressed. Local remote control operation Prohibit/Permit When Unchange (no icon display) is selected, Prohibit/Permit remains in the current state. * For the ventilation group, it is possible to set Permit/prohibit only to [On/Off] and [Filter reset]. * For the K-control model, there is no item provided for [Filter reset], [Air direction], [Fan speed] and [Timer]. * For the K-control model, it is possible to set only All-item permit and All-item prohibit. * [Air direction], [Fan speed], and [Timer] may not be displayed, depending on the unit model.

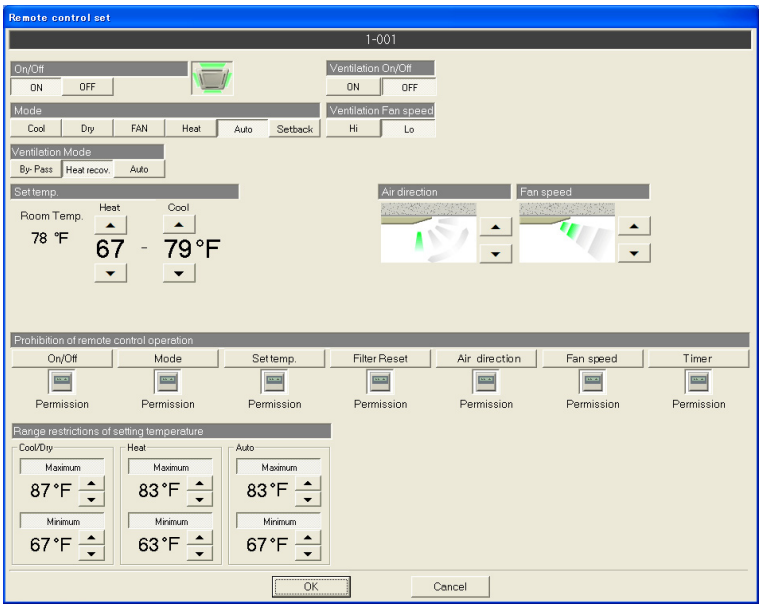
Operation methods (continued)

Item	Details
Set temperature range limit	Set the temperature range limit value by selecting the Maximum or the Minimum buttons. Change the set temperature range limit value by clicking the "▲/▼" buttons. Cooling (dry) mode :Upper limit set temperature, Lower limit set temperature Heating mode :Upper limit set temperature, Lower limit set temperature Automatic mode :Upper limit set temperature, Lower limit set temperature When the Maximum or the Minimum buttons are not selected, the upper limit or the lower limit will be removed. * This can be set only when the set temperature range limit function is valid. * The set temperature range is limited only for the ME remote controller (PAR-F27ME) and personal browser. In some case, this function cannot be used depending on the indoor unit model being used when using the MA remote controller (*1). * It is impossible to set the upper limit lower than the lower limit. When the upper limit is lower than the lower limit, the limit will automatically change to "upper limit = lower limit". * When the out of range setting is made on the remote controller, the system will correct the value automatically to the settable value. * When displayed in Fahrenheit, the temperature is displayed in 2°F steps. * The set temperature limit range for the Auto mode cannot be set for the groups that support the dual set point function in the Auto mode. The set temperature ranges for the normal cooling and heating modes will be used for the ones for cooling and heating in the Auto (dual set point) mode.
Select [OK] or [Cancel] button.	OK : Accepts the changes and returns to the monitor/operation screen. Cancel: Ignore the changes and returns to the monitor/operation screen.

*1: The followings are the applicable MA remote controllers. However, this function may not be available depending on the indoor unit model (e.g, A control type and Room Air Conditioner).
MA smart remote controller (PAR-30MAA, PAR-31MAA)
MA smooth remote controller (PAR-21MAA)
MA compact remote controller (PAR-YT51CRB, PAC-YT52CRA, PAC-YT53CRA)

Note:
- If a group in a different state exists on the operation setting group of All floors, Whole buildings, and Block, the following is displayed.
  On/Off : State in which both ON button and OFF button are not pressed (keeping current state)
  Mode : State in which all operation mode buttons are not pressed (keeping current state)
  Set temperature : – – (keeping current state)
  Remote controller prohibited item: No display (keeping current state)
  Set temperature range limit: – – (keeping current state)
- On the "Whole floor," "Whole building," and "Block" windows on which air conditioning units (the ones interlocked with ventilation units) and uninterlocked ventilation units coexist, use the same ON/OFF and the Fan Speed (▲/▼) buttons as for the air conditioning units to operate the uninterlocked ventilation units. They are not for operating the interlocked ventilation units.
- Note that the setting/change contents of each item may change depending on the equipment model. It is possible to confirm the group function by reading the [System configuration setting display] in the [Display] menu. (For operation details, refer to the Chapter 10 System display given in this instruction manual.)
- When the air direction is set to downwards, the indoor unit control may automatically change it to another direction.
- When local remote control operation is prohibited, "CENTRALLY CONTROLLED" is displayed on the local remote controller.

When Fahrenheit is chosen by Centralized controller



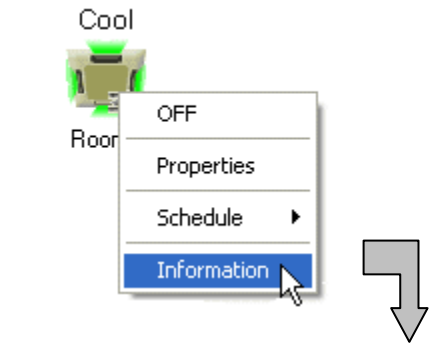
6.5 Other Functions

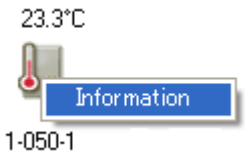
The following are displayed on Floor screen of the monitor/operation screen:

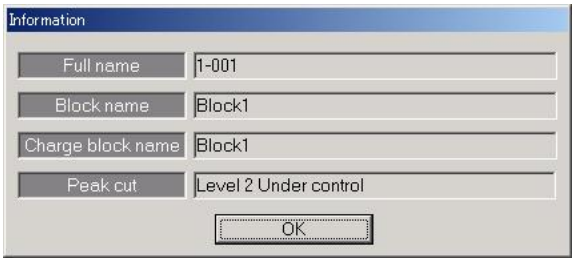
- Full name
- Block name (Operation block name)
- Charge block name
- Energy saving／Peak cut control information

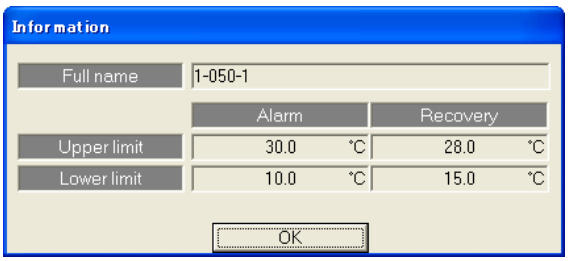
[Procedure]

1) Select group.
   When the group item of the group whose names are to be displayed is clicked, a menu appears.
2) Select the information to be displayed.
   When Information in the menu is clicked, every set contents are displayed.
3) Select [OK] button.
   Confirm the contents of the information and then click the [OK] button.









Note:

- When a communication error occurs, "???" appears on the screen. Energy saving/Peak cut information can be seen when the information screen is displayed. As the control information is monitored every minute, display the information menu again after a minute.
- The energy saving/peak-cut control is sometimes run at regular intervals. The type of information displayed will depend on whether the unit is under the control or on stand-by. Information related to the control of indoor units and outdoor units will be displayed.

"Peak cut control"

<Under the control>
●Information screen display
"Level* under control"
●Floor-screen icon

<On stand-by>
●Information screen display
"Level* under control"
●Floor-screen icon

The levels are shown where marked with an asterisk (*).

"Energy save control"

<Under the control>
●Information screen display
"Under control"
●Floor-screen icon

<On stand-by>
●Information screen display
"Under standby"
●Floor-screen icons

The full group name automatically appears when the cursor is placed on the group icon.

7. Schedule Setting

The operation mode, temperature, wind velocity, and On/off from the specified time can be set with the schedule setting function. To set a schedule, “On (start)” or “Off (stop)” must always be selected.
Today’s schedule, weekly schedule or annual schedule can be set. A schedule for each day can be set in the weekly schedule, and a schedule for up to 50 days can be set in the annual schedule. The setting priority is today’s, annual and weekly.
The minimum unit that can be set is group.
Operable objects: Group, floor, block, whole building

Note:

- The “Annual Schedule, Weekly Schedule” license must be registered in the centralized controller before using this schedule function. The schedule cannot be used until the license is registered in the centralized controller.
  When using TG-2000A Ver. 6.20 or later, the “Weekly 1” (except the “Seasonal settings”) function is available for use, even if the “Annual/Weekly Schedule” license for the connected AE-200/AE-50/EB-50/AG-150A/GB-50ADA has not been registered.
- With the general equipment, only the schedule for the group connected to PLC for general equipment unit and whole building can be set. The license does not need to be registered. Up to 12 events can be scheduled. Seasonal setting is not available on weekly schedule.
- The schedule function cannot be used with general equipment connected to the IC I/O signal.
- Use the Annual schedule to set the holidays that are not applied to Weekly schedule.
  (Ex: Set the schedule to OFF only.)

Important (Caution)

- When an On/Off schedule for the air-conditioner is set at a time when the unit price changes, the timing may result in an invoice being issued for air-conditioning charges at the incorrect unit price.
  (Example) Unit price 1: 08:00-17:00 Tenants not invoiced
  Unit price 2: Times other than the above Tenants invoiced
  In the schedule, the air-conditioner stops at 17:00
  Due to the timing, the operating time is added at unit price 2 when the air-conditioning charges are invoiced.
  To prevent invoicing at the incorrect unit price for air-conditioning charges, run scheduling so that the

Note that the schedule setting details differ depending on the centralized controller model used.

	AE-200/AE-50/EB-50	AG-150A/GB-50ADA	G-50A
Number of settings for schedule	Up to 24 settings can be set.	Up to 24 settings can be set.	Up to 12 settings can be set.
Air direction and Fan speed setting on the schedule	Air direction and Fan speed can be set.	Air direction and Fan speed can be set.	The unit does not have functions as Air direction and Fan speed setting.
Seasonal setting on Weekly schedule	The unit can make weekly schedule setting for five seasons.	AG-150A Ver.2.80 or later The unit can make weekly schedule setting for five seasons. Before AG-150A Ver. 2.80 The unit can make weekly schedule setting for two seasons.	The unit does not have function as seasonal setting.
Optimized start	The schedule automatically starts the operation prior in order to reach the specified temperature at the specified time.	AG-150A Ver.1.20 or later The schedule automatically starts the operation prior in order to reach the specified temperature at the specified time.	The unit does not have function as Optimized Start.
Schedule Enable/Disable	The schedule function for each group can be enabled or disabled. (EB-50 does not support this function.)	AG-150A Ver. 2.90 or later The schedule function for each group can be enabled or disabled.	The unit does not have function as Schedule Enable/Disable.

Note:

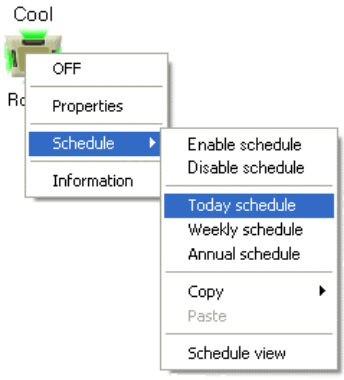
- On TG-2000A Ver. 6.38 or later, Weekly schedule settings can be set for five seasons, regardless of the AG-150A version. **On AG-150A before Ver. 2.80, Weekly schedule settings can be set only for two seasons.**
- On AG-150A Ver. 2.80 or later, before setting the Weekly schedules, check that the Seasonal settings on the AG-150A are set to “Available.” The Weekly schedule settings on the AG-150A will be effective only when the Seasonal settings on the AG-150A are set to “Available.”

When “AE-200, AE-50, EB-50, AG-150A, GB-50ADA” and “G-50A” are connected in the same system, the unit connected to “AE-200, AE-50, EB-50, AG-150A, GB-50ADA” and the unit connected to “G-50A” cannot make the settings at the same time because they have different setting contents.
The selection of AG-150A” or G-50A is displayed for schedule setting of floor, block or whole building. Make each schedule setting after selecting one of them.
(When “AG-150A” is selected, the settings apply to units connected to an "AE-200, AE-50, EB-50, AG-150A or GB-50ADA".)

7.1 Today's Schedule Setting

1) Select the today's schedule.
When the today's schedule is clicked on in the menu, the today's schedule set screen opens. The information saved in the integrated centralized control software TG-2000A appears on the screen.

Perform the following operations from the today's schedule set screen.



Note:
- If "AE-200, AE-50, EB-50 or GB-50ADA" and "G-50A" units are connected in combination in the schedule settings for a floor, block or whole building, the AG-150A or G-50A selection is displayed. Select one and then set the various schedules.
("AG-150A" units: Units connected to an AE-200, AE-50, EB-50, AG-150A or GB-50ADA)

(1) Schedule setting

Caution:
- Press the [Update] button to display the schedule set in the centralized controller on the monitor before setting the schedule.
Mistakes in the schedule setting can be prevented by updating the monitor.

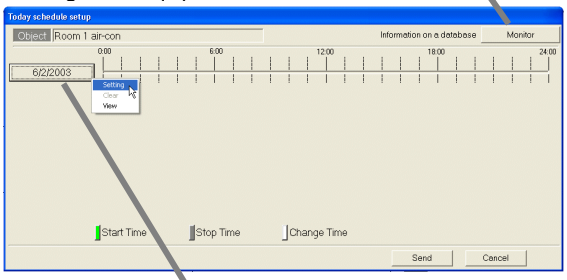
[Procedure]

1) Select the Date button.
The menu opens when the Date (year/month/day) button is clicked on.

2) Select Setting.
The schedule details set screen opens when the menu [Setting] is clicked on.

3) Set the time.
Set the time with the "▲/▼" buttons. The value can also be input directly.
* The values can also be input directly.

Monitor update button
The schedule setting details are monitored from the centralized controller or general equipment.



Setting button
A menu appears when the date is clicked. Click the "Setting" button.

Note:
- Multiple schedules cannot be set for the same time.

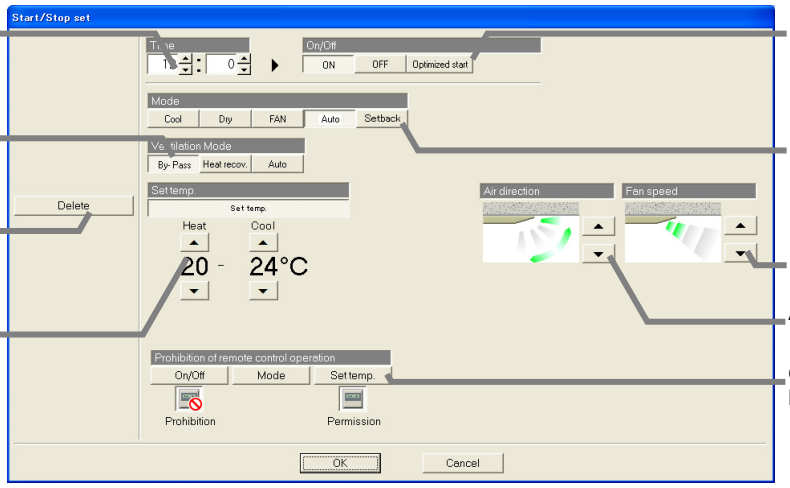
4) Select the [ON] or [OFF] ([Optimized start]) button.
Click the [ON] or [OFF] button. The current state can be set without selecting either the [ON] or [OFF] button.
[Optimized start] button is displayed for the applicable groups connected to AE-200/AE-50 /EB-50/AG-150A/GB-50ADA.
Click the [Optimized start] button to set the operation mode and the set temperature for the schedule settings for this function.

5) Set the operation prohibit, mode and set temperature, etc.
The operation prohibit item can enable or disable operations from the local remote controller. Set either prohibit or enable for the On/Off, mode and set temperature items.
* If changes are not required, set the current state (no icon display).

Use each mode button to select the mode. To set the current state, do not select any button.
The temperature can be set by clicking the [Set Temperature] button.
The temperature can be changed with the "▲/▼" buttons. To set the current state, click the [Set Temperature] button again to cancel the selection.

For AE-200/AE-50/EB-50/AG-150A/GB-50ADA only (The setting is not displayed for G-50A)
Click the "▲/▼" buttons to make Air direction setting.
Click the "▲/▼" buttons to make Fan speed setting.

To delete a set schedule, click the [Delete] key.



Time setting button
Set the schedule time.

Ventilation mode button
Set the ventilation mode.

Delete button
Delete a schedule setting.

Set temperature button.
Set the set temperature. When using the "Heating" mode, a temperature higher than 12°C can be set as the frost protection function.

On/Off button
Set the On/Off or Optimized start state

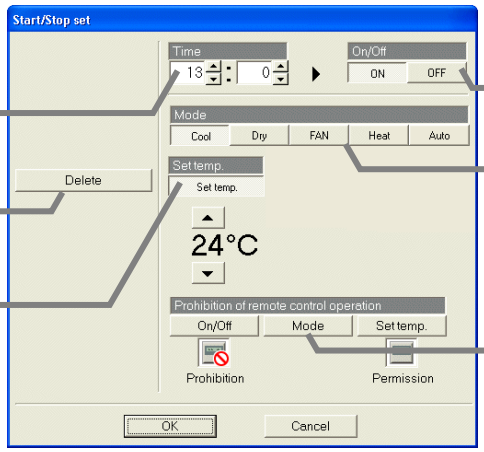
Mode button
Set the mode.

Fan speed button
Set the fan speed.

Air direction button
Set the air direction.

Operation prohibit/enable button
Set whether operation of the local remote control is prohibited or enabled.

Air-conditioner schedule details setting screen



Time setting button
Set the schedule time.

Delete button
Delete a schedule setting.

Set temperature button.
Set the set temperature. When using the "Heating" mode, a temperature higher than 12°C can be set as the frost protection

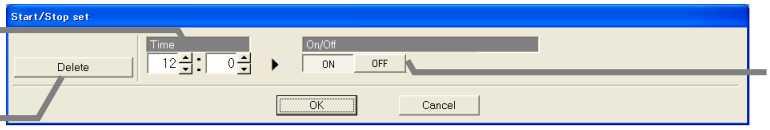
On/Off button
Set the On/Off state

Mode button
Set the mode.

*Air direction setting and Fan speed setting are not displayed when G-50A is connected.

Operation prohibit/enable button
Set whether operation of the local remote control is prohibited or enabled.

[G-50A] Air-conditioner schedule details setting screen

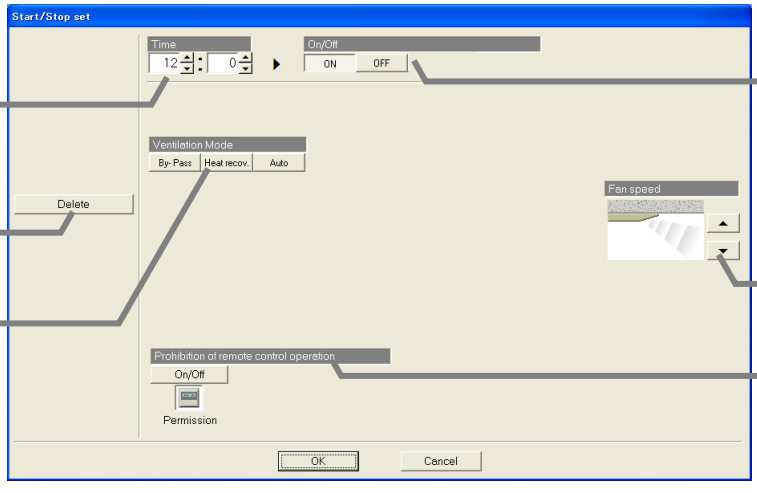


Time setting button
Set the schedule time.

Delete button
Delete a schedule setting.

On/Off button
Set the On/Off state

General equipment schedule details setting screen



Time setting button
Set the schedule time.

Delete button
Delete a schedule setting.

Ventilation mode button
Set the ventilation mode.

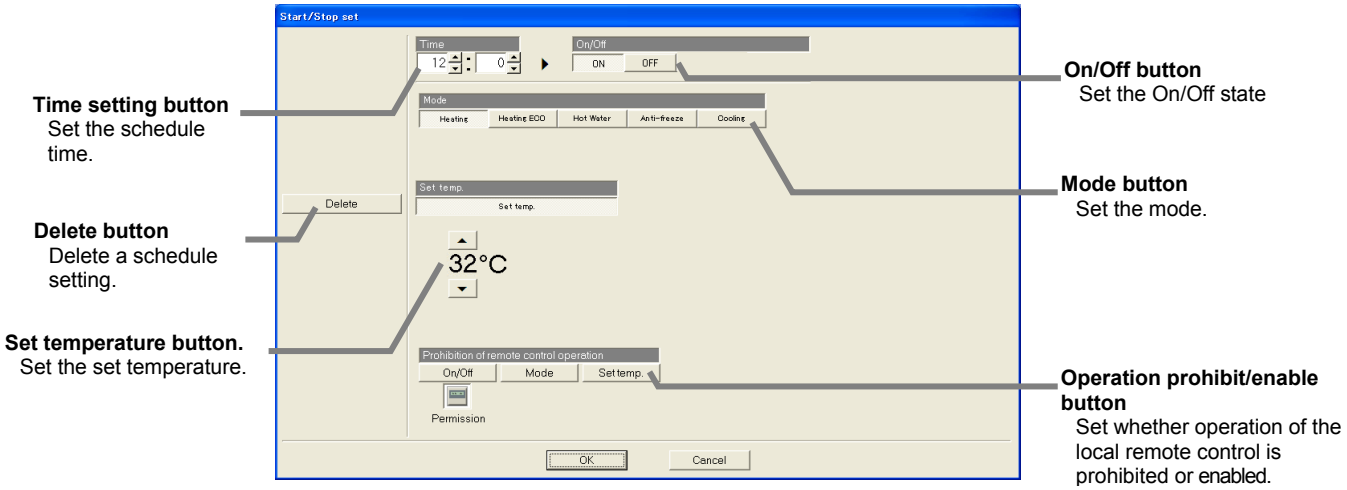
On/Off button
Set the On/Off state

* Fan speed setting is not displayed when G-50A is connected.

Fan speed button
Set the fan speed.

Operation prohibit/enable button
Set whether operation of the local remote control is prohibited or enabled.

Ventilation unit schedule details setting screen



Air To Water (PWFY) schedule details setting screen

6) Click the [OK] button after making the settings.
The set schedule appears on the current day schedule set screen.
* The set details are invalidated when the [Cancel] button is clicked on.

Note:

- Up to 24 settings can be set when AE-200/AE-50/EB-50/AG-150A/GB-50ADA is connected. Up to 12 settings can be set when G-50A is connected.
- When using batch schedule monitor for two or more groups, the setting field is highlighted in light blue if there are different settings. (On Schedule setting screen)
- If the data is sent without today's schedule set, a schedule with "no settings" is set. A schedule mark appears at the group icon in this case.
- When using the "Heating" mode, a temperature higher than 12°C can be set as the frost protection. (The function of Frost protection is only at the time of effective.)
  * This can be used only with the PAR-F27MEA, PAR-21MAA, or PAR-30MAA system.
  * Only CITY MULTI models except for PUMY are supported. The setting must be over 17°C unsupported models and old CITY MULTI models.
- When Fahrenheit is chosen by Centralized controller, the temperature unit displays by "°F".
- All modes are displayed for old K control models and M-NET models before FREE PLAN models. However, choose only the modes that can be used.

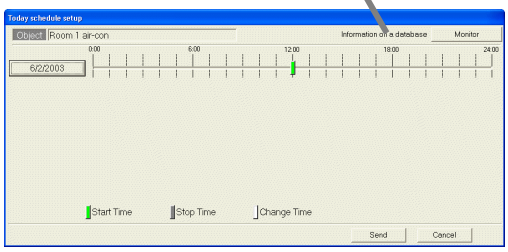
(2) Schedule change

Use this function to change a set schedule.

[Procedure]

1) Select the current day schedule from the menu.
The current day schedule set screen opens.
2) Select the operation display box.
Click the operation display box to be changed.
The schedule details set screen opens.

Operation display box
* Change the time by dragging.



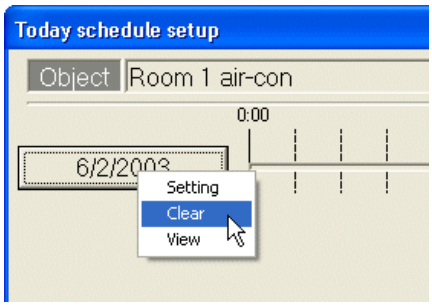
3) Change the details of the schedule.
Set the changes on the Schedule details setting screen.
* For the operating instructions, refer to "(1) Schedule setting".
When only the set time is changed, the change can be made by dragging the operation display box. (10 minutes units)

4) Click the [OK] button after making the settings.
The changed schedule appears on the current day schedule set screen.
* The set details are invalidated when the [Cancel] button is clicked on.

(3) Schedule clearing

[Procedure]

1) Select the Date button.
   The menu opens when the Date button is clicked on.
2) Select [Clear].
   Select [Clear] from the menu.
   The clear check screen opens.
3) The schedule is deleted when [OK] button is pressed after confirmation.
   * The schedule is not deleted when the [Cancel] button is clicked on.



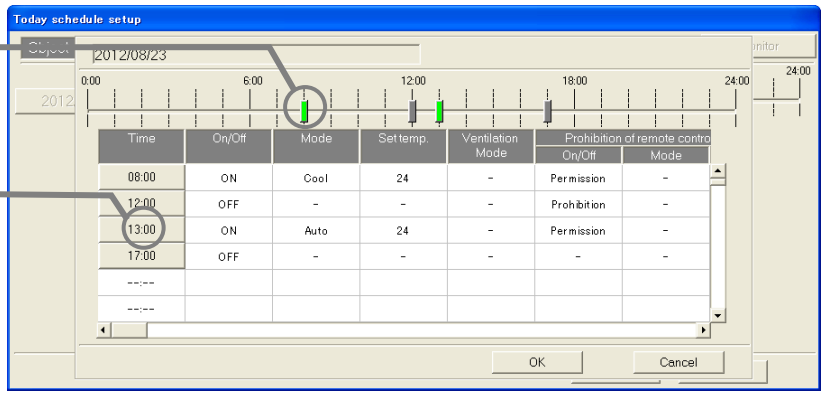
(4) Checking the schedule details

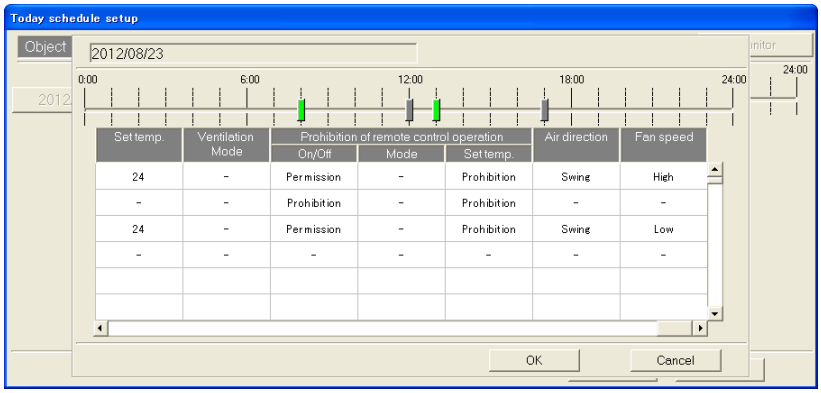
[Procedure]

1) Select the Date button.
   The menu opens when the Date button is clicked on.
2) Select View.
   Click the menu [View].
   The details screen opens.
   The details for “Time”, “On/Off”, “Mode”, “Temperature Setting”, “Ventilation mode”, “Remote Controller Prohibit”, ”Air direction” and “Fan speed” are displayed on the details screen.

Operation display box
* The Schedule details setting screen opens when clicked, and the schedule can be changed.

Set time button
* The Schedule details setting screen opens when clicked, and the schedule can be changed.





3) Press the [OK] button after confirming or changing the settings.
   * The set details are invalidated when the [Cancel] button is clicked on.

Ending the today’s schedule setting

Select the [Send] or [Cancel] button.

Send : The schedule is sent to the centralized controller, and the monitor/operation screen opens.
Cancel : The schedule is not sent to the centralized controller, and the monitor/operation screen opens.
(When the monitor/operation screen opens, a schedule mark is displayed at the set group's icon.)

7.2 Weekly Schedule Setting

Seasonal settings can be set on Weekly Schedule with AE-200/AE-50/EB-50/AG-150A/GB-50ADA.
Up to two types of settings can be set for Seasonal setting.
Refer to (1) Seasonal settings for the setting method.

*The "Weekly 1" (except the "Seasonal settings") function is available for use, even if the "Annual Schedule, Weekly Schedule" license for the connected AE-200/AE-50/EB-50/AG-150A/GB-50ADA has not been registered. (Applicable to TG-2000A ver. 6.20 or later)

G-50A does not have the function as the seasonal setting. Refer to (2) Schedule setting or later section.

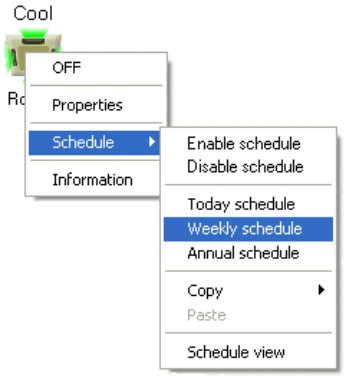
Switch from Management screen to schedule set screen

[Procedure]

1) Select weekly schedule.

When Weekly schedule is selected from the menu, the Weekly schedule set screen opens.

Perform the following operations from the Weekly schedule set screen.



Note:

- If "AE-200, AE-50, EB-50 or GB-50ADA" and "G-50A" units are connected in combination in the schedule settings for a floor, block or whole building, the AG-150A or G-50A selection is displayed. Select one and then set the various schedules.
  ("AG-150A" units: Units connected to an AE-200, AE-50, EB-50, AG-150A or GB-50ADA)

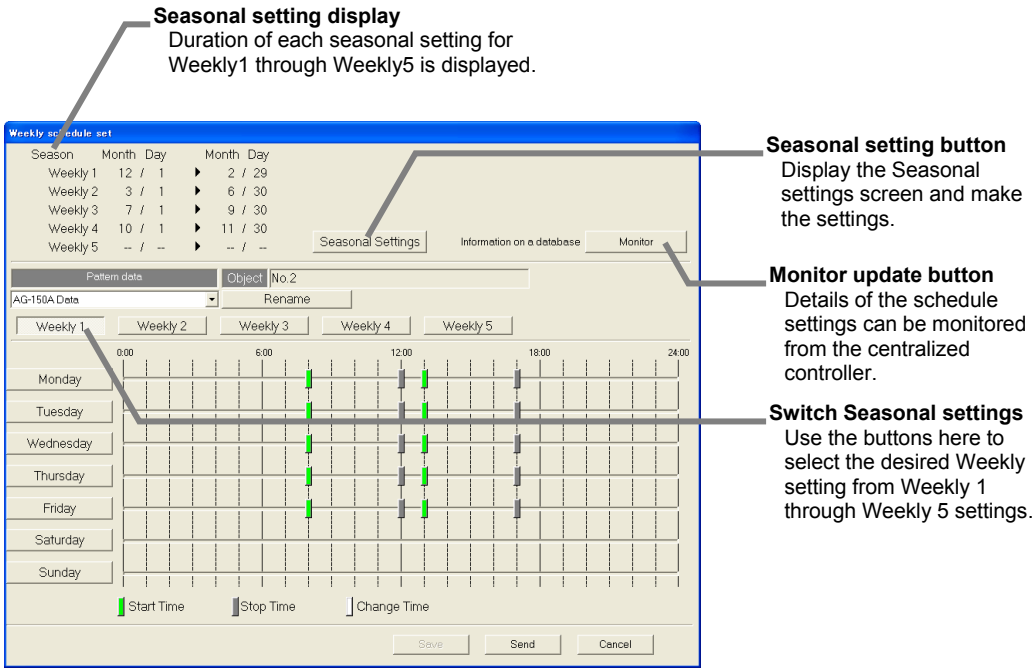
(1) Seasonal settings

(G-50A does not have this setting.)

[Procedure]

1) Select Seasonal settings

AE-200/AE-50/EB-50/AG-150A/GB-50ADA can make the setting for five seasons on Weekly Schedule.
Current seasonal setting; Season is displayed on Weekly1 through Weekly5.
To make a change in the Seasonal settings, click [Seasonal settings] to display Seasonal settings screen.



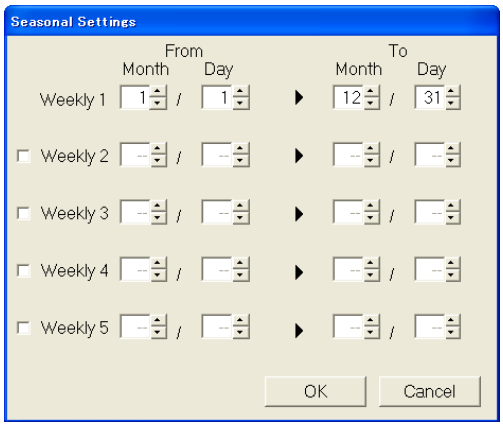
2) Set the seasonal settings

Set the each duration of Weekly1 through Weekly5 when the settings are divided into five seasons.

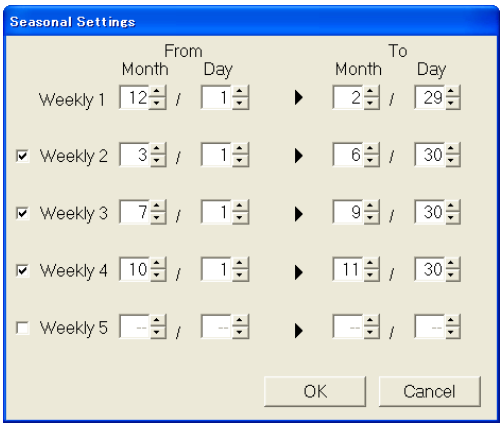
Seasonal settings can be enabled or disabled for each of the weekly settings between 2 and 5. To set the beginning and the ending date of the operating season, check the check box left to Weekly2 and set the dates that begins and ends the duration. The setting of Weekly2 can be canceled when the check box is unchecked.

Click the [OK] button and back to Weekly schedule set screen after completing the setting.

To cancel the settings, click the [Cancel] button and back to Weekly schedule set screen.



Seasonal Setting screen (Initial Initialization)



Seasonal Setting screen
(Example) Weekly1: Dec. 1 – Feb. 29
Weekly2: Mar. 1 – June 30
Weekly3: July 1 – Sept. 30
Weekly4: Oct. 1 – Nov. 30
Weekly5: Not used

Note:

- To send the seasonal settings to AE-200/AE-50/EB-50/AG-150A/GB-50ADA can be done by clicking the [Send] button on the Weekly schedule set screen. It does not transmit the setting by clicking the [OK] button when the settings are made.
- The period that is not included in Weekly1 through Weekly5 can be set. The Weekly schedule is not operated for the period.
- The season settings for Weekly1 through Weekly5 can overlap, but the settings with higher priority will override other settings.

  Priority order

  Weekly1 > Weekly2 > Weekly3 > Weekly4 > Weekly5

On AG-150A before Ver. 2.80, only Weekly1 and Weekly2 are available.

Click the [Weekly1] button on the Weekly schedule set screen to make Weekly1 setting.

Click the [Weekly2] button on the Weekly schedule set screen to make Weekly2 setting.

(2) Schedule setting

[Procedure]

1) Select the pattern data.

Select from the pattern data selection box [AG-150A/G-50A Data], [Summer Master], [Winter Master], [Schedule Master 1] [Schedule Master 2], or [Schedule Master 3]

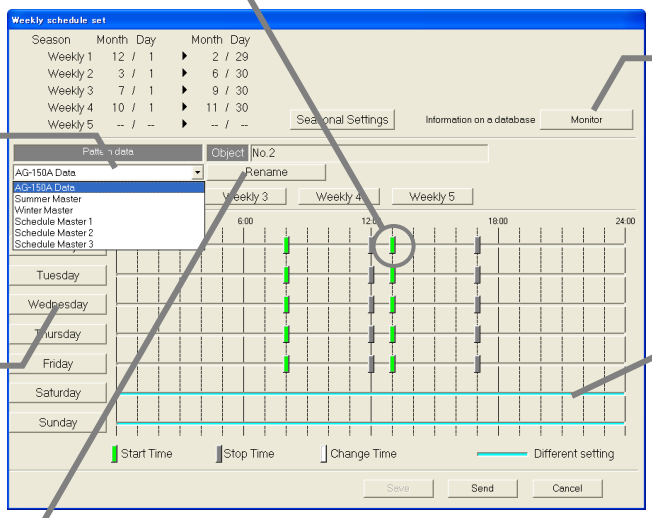
When [Summer Master], [Winter Master], [Schedule Master 1], [Schedule Master 2], or [Schedule Master 3] is selected, the set schedule can be saved in TG-2000A. These are useful for setting different schedules for different seasons.

Operation display box
Up to 24 settings can be set when AE-200/AE-50/EB-50/AG-150A /GB-50ADA is connected.
Up to 12 settings can be set when G-50A is connected.

Pattern data button
Select the object from [AG-150/G-50A data], [Summer master], [Winter master], [Schedule Master 1] , [Schedule Master 2], or [Schedule Master 3]

Day button
The menu appears when clicked.
[Menu items]
Setting, View, Clear, Copy, Paste

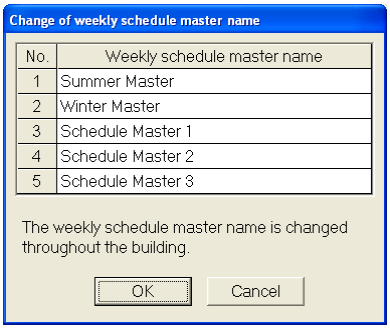
Schedule Master Rename button



Monitor update button
Details of the schedule settings can be monitored from the centralized controller.

Different setting display
If several groups are being used and the details of the schedules differ, a light blue line appears.

The names for [Summer Master], [Winter Master], and [Schedule Masters 1-3] can be changed by clicking on Rename. (20 characters or less)
Name changes will be reflected on all groups in the building. If the name of a master in one group is changed, the ones in other groups will also change.



Note:

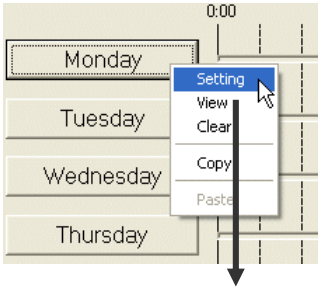
- Press the [Monitor] button to display the schedule set in the centralized controller on the monitor before setting the pattern data to [AG-150A/G-50A Data].
  Mistakes in the schedule setting can be prevented by updating the monitor.
- The "Monitor update" function is not available for the general equipment.
- If “different setting” appears on the “Schedule master,” the schedules of the days on which “different setting” appear will not be sent. Make sure the screen does not say “different setting” when sending the “Schedule master.”

2) Select the day of the weekly to be set.
When the button of the day of the weekly to be set is clicked, a menu appears.

3) Select Setting.
Select [Setting] from the menu.
The schedule details set screen opens.

4) Set the time.
Set the time with the "▲/▼" buttons. The value can also be input directly.

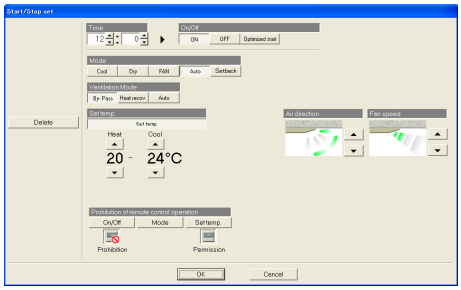
* The values can also be input directly.



Note:
- Multiple schedules cannot be set for the same time.

5) Select the [ON] or [OFF].
Click the [ON] or [OFF] button.

* The current state can be set without selecting either the [ON] or [OFF] button.



*Air direction setting and Fan speed setting are not displayed when G-50A is connected.

Note:
- Refer to "7.1(1) Schedule setting" for general equipment and Air To Water (PWFY) settings.

6) Set the operation prohibit, operation mode and set temperature, etc.
The operation prohibit item can enable or disable operations from the local remote controller. Set either prohibit or enable for the On/Off, mode and set temperature items.

* If changes are not required, set the current state (no icon display).

Use each mode button to select the operation mode.

* To set the current state, do not select any button.

The temperature can be set by clicking the [Set Temperature] button.
The temperature can be changed with the "▲/▼" buttons.

* When using the current settings, set the set temperature to "--°C".

<u>For AE-200/AE-50/EB-50/AG-150A/GB-50ADA only</u> (The setting is not displayed for G-50A)
Click the "▲/▼" buttons to make Air direction setting.
Click the "▲/▼" buttons to make Fan speed setting.

* To delete a set schedule, click the [Delete] key.

7) Click the [OK] button after making the settings. The set schedule appears on the weekly schedule set screen.

* The set details are invalidated when the [Cancel] button is clicked on.

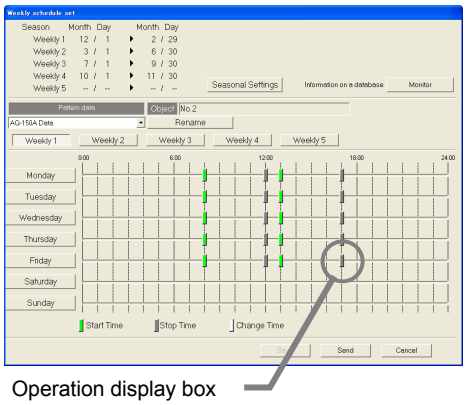
Note:
- Up to 24 settings can be set when AE-200/AE-50/EB-50/AG-150A/GB-50ADA is connected. Up to 12 settings can be set when G-50A is connected.
- When using batch schedule monitor for two or more groups, the setting field is highlighted in light blue if there are different settings. (On Schedule setting screen)

(3) Schedule change

Use this function to change a set schedule.

[Procedure]

1) Select the weekly schedule from the menu.
   The weekly schedule set screen opens.
2) Select the operation display box.
   Click the operation display box to be changed.
   The schedule details set screen opens.
3) Change the details of the schedule.
   Set the changes on the Schedule details setting screen.
   * For the operating instructions, refer to "7.2 (2) Schedule setting".
   When only the set time is changed, the change can be made by dragging the operation display box. (10 minutes units)
4) Click the [OK] button after making the settings.
   The changed schedule appears on the weekly schedule set screen.
   * The set details are invalidated when the [Cancel] button is clicked on.



Operation display box

(4) Schedule clearing

[Procedure]

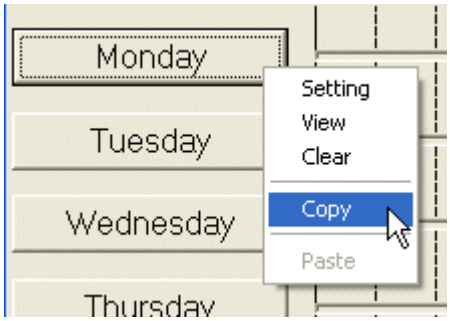
1) Select the day of the week whose schedule is to be cleared.
   When the button of the day of the week whose schedule is to be cleared is clicked, a menu appears.
2) Select [Clear].
   Select [Clear] from the menu.
   The clear check screen opens.
3) Select the [OK] button after confirmation.
   The schedule for that day is deleted.
   * The schedule is not cleared when the [Cancel] button is clicked.

(5) Schedule copy

This function copies the schedule settings of the specified day of the week to another day of the week.

[Procedure]

1) Select the copy from day of the week.
   When the copy from day of the week button is clicked, a menu appears.
2) Select [Copy].
   Select [Copy] from the menu.
3) Select the copy to day of the week
   When the copy to day of the week is clicked, a menu appears.
4) Select [Paste].
   When [Paste] is selected from the menu, the schedule of the copy source day of the week is pasted.
   This schedule can also be pasted to other days of the week.



(6) Checking the schedule details

[Procedure]

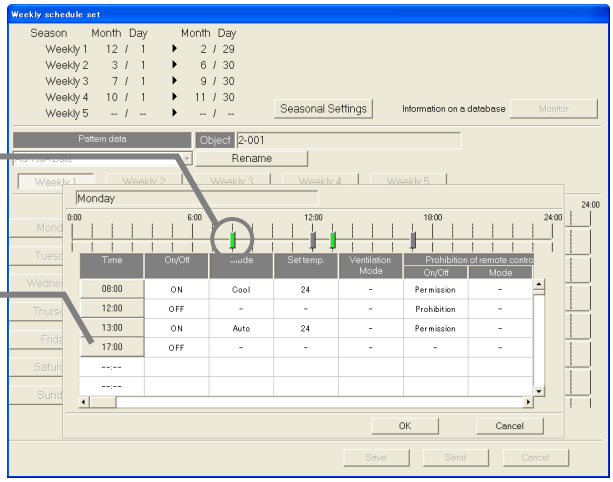
1) Select the Day button.
   The menu opens when the Day button is clicked on.
2) Select [View].
   Click the menu [View]. The details screen opens.
   The details for "Time", "On/Off", "Mode", "Temperature Setting", "Ventilation mode", "Remote Controller Prohibit", "Air direction" and "Fan speed" are displayed on the details screen.

Operation display box

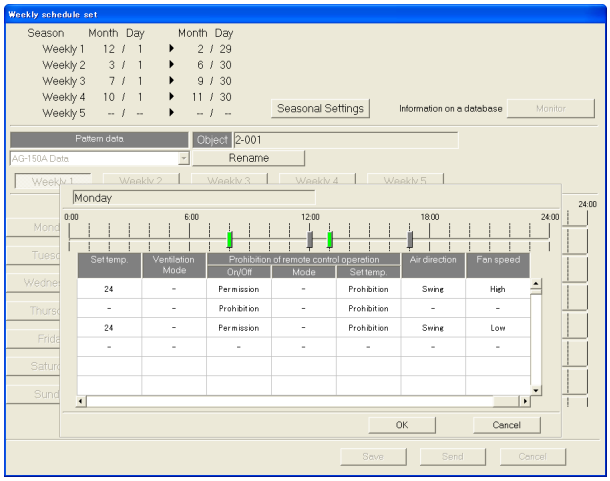
* The Schedule details setting screen opens when clicked, and the schedule can be changed.

Set time button

* The Schedule details setting screen opens when clicked, and the schedule can be changed.



* Side scrolling on the screen displays setting items for Air direction and Fan speed when AE-200/AE-50/EB-50/AG-150A /GB-50ADA is connected. These setting items are not displayed when G-50A is connected.



3) Press the [OK] button after confirming or changing the settings.
The changes are saved and the weekly schedule set screen opens.
* The set details are invalidated when the [Cancel] button is clicked on.

Ending weekly schedule setting

Select [Send] or [Cancel] button.

At the end of schedule setting and change, click the [Send] button.

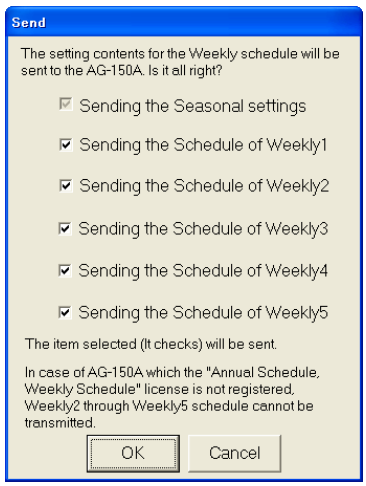
Send : The settings are validated, the schedule is sent to the centralized controller, and the monitor/ operation screen opens.
Confirmation of the sending contents is displayed when AE-200/AE-50/EB-50 /AG-150A/GB-50ADA is connected. The setting contents are sent to the centralized controller after checking and setting. (G-50A does not have this function.)

Cancel : Ignore the changes and returns to the monitor/operation screen.

(When returned to the monitor/operation screen, a schedule mark is displayed at the set group icon.)

Confirmation of sending contents

Confirmation of the sending contents for Weekly schedule is displayed when AE-200/AE-50/EB-50 /AG-150A/GB-50ADA is connected.
Check Weekly1 through Weekly5, then click the [OK] button to send Weekly setting to AG-150A. Unchecked contents are not sent.


Send
The setting contents for the Weekly schedule will be sent to the AG-150A. Is it all right?
Sending the Seasonal settings
Sending the Schedule of Weekly1
Sending the Schedule of Weekly2
Sending the Schedule of Weekly3
Sending the Schedule of Weekly4
Sending the Schedule of Weekly5
The item selected (It checks) will be sent.
In case of AG-150A which the "Annual Schedule, Weekly Schedule" license is not registered, Weekly2 through Weekly5 schedule cannot be transmitted.
OK
Cancel

Note:

- Seasonal settings cannot be unchecked. It is always sent to AG-150A when the Weekly schedule is sent.
- Uncheck Weekly1 through Weekly5 to send Seasonal settings only.
- When sending the settings on [Summer Master], [Winter Master], [Schedule Master 1] [Schedule Master 2], or [Schedule Master 3], check the check box next to the weeks on which the Pattern Data settings will be reflected.

7.3 Annual Schedule Setting

With the annual schedule, up to 50 days (including that day) in the next 24 months (including current month) can be set for each air conditioner group. This is handy for sending a schedule that does not fit into the weekly schedule, such as holidays and summer vacations.

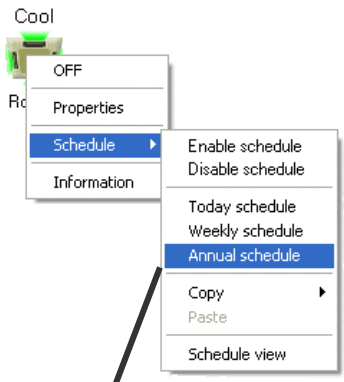
To change the annual schedule, first select the target to be set, and then set the details of the schedule pattern (patterns 1 to 5). Then, assign the pattern to the holidays or summer vacation schedule, etc.

Switch from Management screen to schedule set screen

[Procedure]

1) Select Annual schedule.

When Annual schedule is selected from the menu, the Annual schedule set screen opens.



Note:

- If "AE-200, AE-50, EB-50 or GB-50ADA" and "G-50A" units are connected in combination in the schedule settings for a floor, block or whole building, the AG-150A or G-50A selection is displayed. Select one and then set the various schedules.

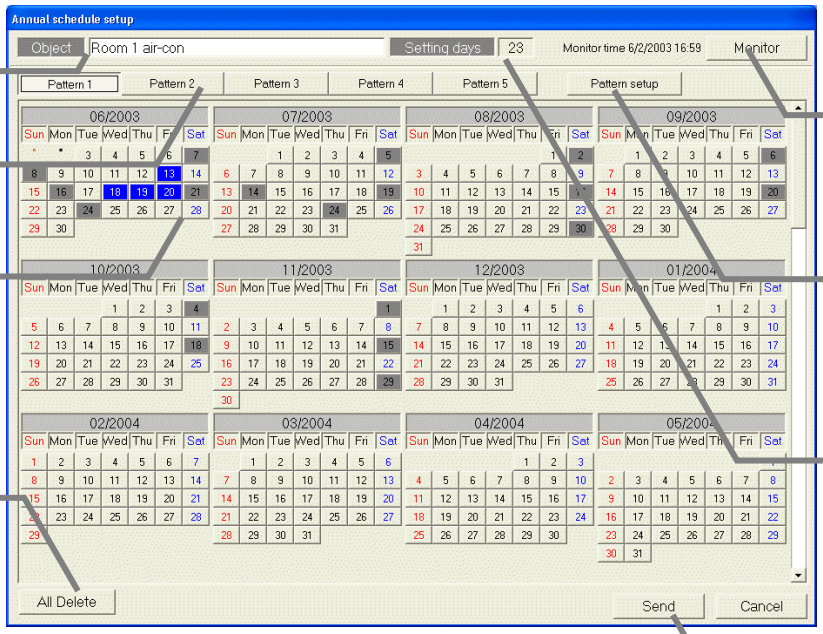
("AG-150A" units: Units connected to an AE-200, AE-50, EB-50, AG-150A or GB-50ADA)

Annual schedule is displayed up to 24 months from the current month.

The schedule starting from the next day can be set.

Color of calendar date frame:

Blue : Schedule set for target pattern
Dark gray : Schedule set for non-target pattern
Light gray : No schedule set
Light blue : Different schedule set for multiple groups



Object display
Display the display object.

Pattern buttons
Buttons for selecting five types of schedule patterns.

Setting status display
The dates set in the annual schedule are displayed in blue, dark gray, light gray and light blue.

All Delete button
Delete the entire annual schedule.

Monitor button
Details of the schedule settings can be monitored from the centralized controller.

Pattern setting/ change button
Set and change the schedule pattern.

Number of set days display
Display the number of days set in the annual schedule.

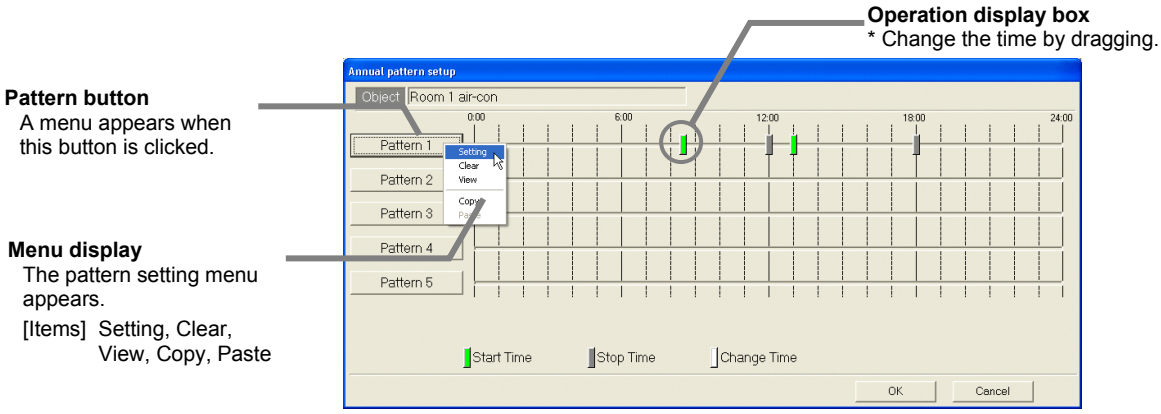
Send button
Click to set the data.

Annual schedule setting screen

Perform the following operations from the Annual schedule set screen.

(1) Pattern setting

The methods of setting the annual schedule pattern are explained in his section.

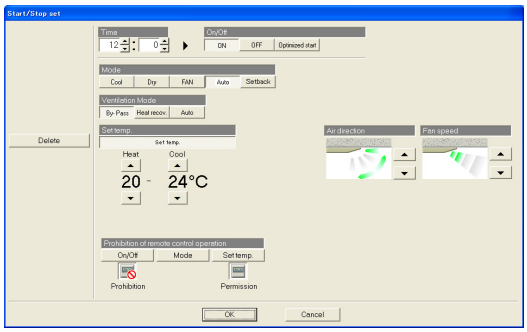


[Procedure]

1) Select the [Pattern Setting/Change] button.
   When the [Pattern Setting/Change] button on the annual schedule set screen is clicked on, the annual pattern set screen opens.
2) Select the Pattern button.
   The menu opens when the Pattern button is clicked on.
3) Select Setting.
   Select the menu [Setting].
   The schedule details set screen opens.
4) Set the time.
   Set the time with the "▲/▼" buttons.
   * The values can also be input directly.

Note:
- Multiple schedules cannot be set for the same time.

5) Select the [ON] or [OFF].
   * Click the [ON] or [OFF] button. The current state can be set without selecting either the [ON] or [OFF] button.
6) Set the operation prohibit, operation mode and set temperature, etc.
   The operation prohibit item can enable or disable operations from the local remote controller. Set either prohibit or enable for the start/stop, operation mode and set temperature items.
   * If changes are not required, set the current state (no icon display).
   Use each mode button to select the operation mode.
   * To set the current state, do not select any button.
   The temperature can be set by clicking the [Set Temperature] button.
   The temperature can be changed with the "▲/▼" buttons.
   * To set the current state, click the [Set Temperature] button again to cancel the selection.



*Air direction setting and Fan speed setting are not displayed when G-50A is connected.

For AE-200/AE-50/EB-50/AG-150A/GB-50ADA only (The setting is not displayed for G-50A)
Click the "▲/▼" buttons to make Air direction setting.
Click the "▲/▼" buttons to make Fan speed setting.

* To delete a set schedule, click the [Delete] key.

Note:
- Refer to "7.1(1) Schedule setting" for general equipment and Air To Water (PWFY) settings.

7) Select the [OK] button after making the settings.
The set schedule appears on the annual schedule set screen.
* The set details are invalidated when the [Cancel] button is clicked on.

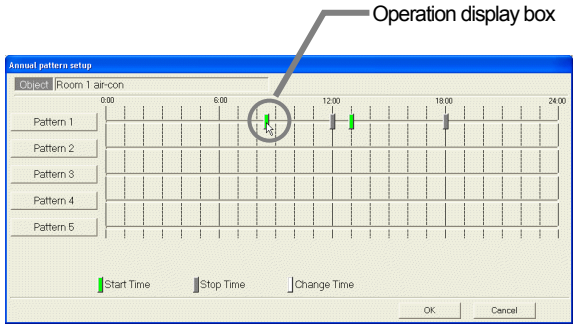
Note:
- Up to 24 settings can be set when AE-200/AE-50/EB-50/AG-150A/GB-50ADA is connected. Up to 12 settings can be set when G-50A is connected.
- When using batch schedule monitor for two or more groups, the setting field is highlighted in light blue if there are different settings.

(2) Pattern change

Use this function to change the set pattern.

[Procedure]

1) Select [pattern setting/change].
The annual pattern set screen opens.
2) Select the operation display box.
Click the operation display box to be changed. The schedule details set screen opens.
3) Change the schedule details.
Set the changes on the Schedule details setting screen.



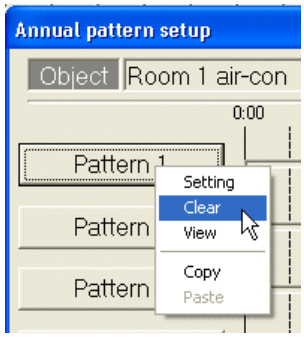
* Refer to section 7.3 “(1) Setting the pattern” for details on the operations. When changing only the set time, the changes can be made by dragging the operation display box. (10 minutes units)

4) Select the [OK] button after making the settings.
These settings are validated, and the annual schedule set screen opens.
* The set details are invalidated when the [Cancel] button is clicked on.

(3) Pattern clearing

[Procedure]

1) Select the pattern to be cleared.
Click the button for the pattern to be cleared. A menu appears.
2) Select Clear.
Click the menu [Clear]. A clear confirmation screen opens.
3) Select the [OK] button.
The set schedule is cleared when the [OK] button is clicked on after confirming.
* The pattern is not cleared when the [Cancel] button is clicked.

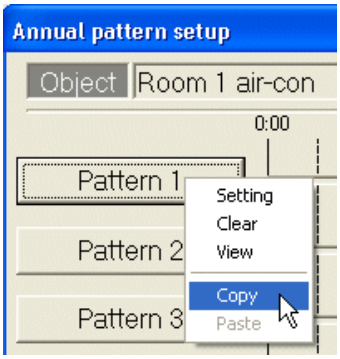


(4) Pattern copy

This function copies the schedule settings of the specified pattern to another pattern.

[Procedure]

1) Select the copy from pattern.
When the copy from pattern is clicked, a menu appears.
2) Select [Copy].
Select [Copy] from the menu.
3) Select the copy to pattern.
When the copy to day is clicked, a menu appears.
4) Select [Paste].
When [Paste] is selected from the menu, the schedule of the copy to pattern is pasted.
This schedule can also be pasted to other patterns.



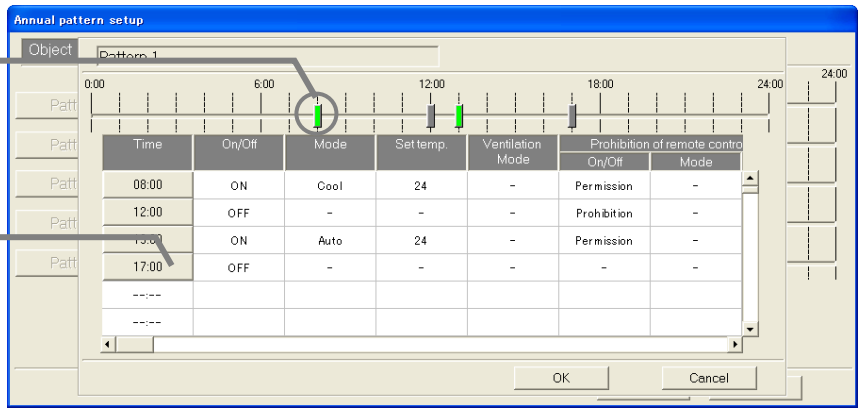
(5) Checking the pattern details

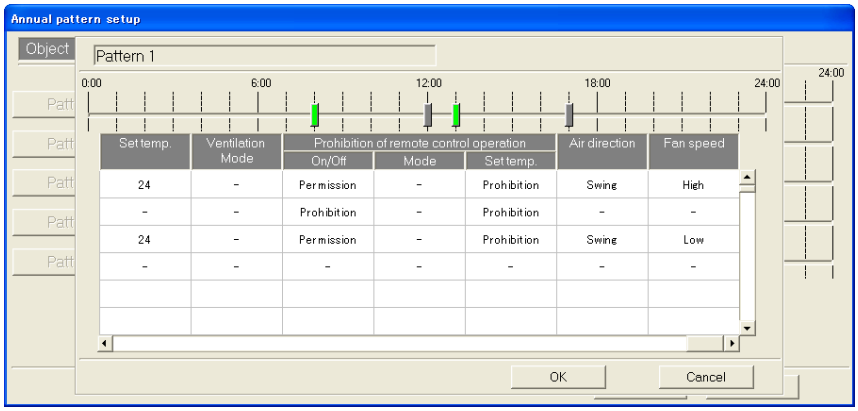
[Procedure]

1) Select the Pattern button.
   The menu opens when the Pattern button is clicked on.
2) Select [View].
   Click the menu [View]. The details screen opens.
   The details for “Time”, “On/Off”, “Mode”, “Temperature Setting”, “Ventilation mode”, “Remote Controller Prohibit”, ”Air direction” and “Fan speed” are displayed on the details screen.

Operation display box
* The Schedule details setting screen opens when clicked, and the schedule can be changed.

Set time button
* The Schedule details setting screen opens when clicked, and the schedule can be changed.





* Side scrolling on the screen displays setting items for Air direction and Fan speed when AE-200 /AE-50/EB-50/AG-150A /GB-50ADA is connected.
These setting items are not displayed when G-50A is connected.

3) Press the [OK] button after confirming or changing the settings.
   The changes are saved and the annual schedule set screen opens.
   * The set details are invalidated when the [Cancel] button is clicked on.

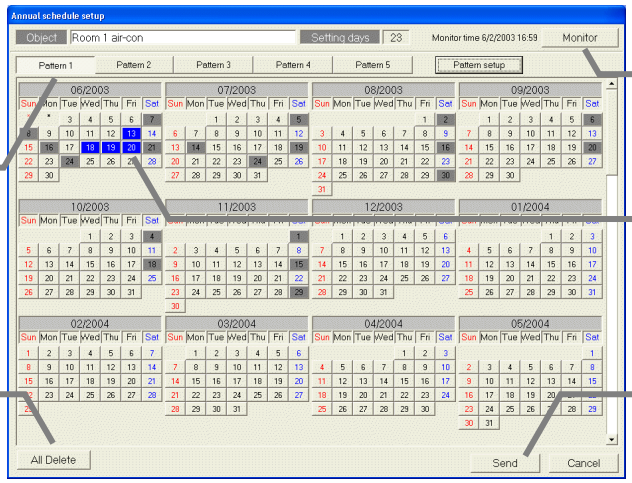
(6) Annual schedule setting

[Procedure]

1) Select the Pattern button.
   Select the pattern button for the annual schedule set screen.
2) Select the date.
   Click the date for executing the schedule.
   The date box changes to blue, and the schedule is set.

Caution:

- Press the [Monitor] button to display the schedule set in the centralized controller on the monitor before setting the schedule.
  Mistakes in the schedule setting can be prevented by updating the monitor.
  (* The "Monitor update" function cannot be used with the general equipment's schedule.)



Pattern button
Display the selected pattern.

All Delete button
Delete the entire annual schedule.

Monitor update button
Detail of the schedule settings can be monitored from the centralized controller.

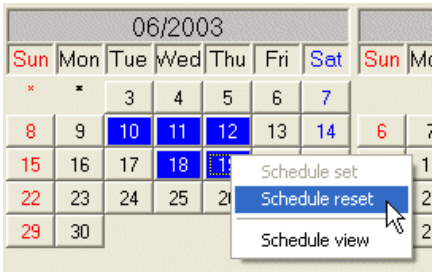
Set display
The date already set in the selected pattern is displayed in blue.

Send button
Schedule settings can be sent to the centralized controller.

(7) Annual schedule clearing

[Procedure]

1) Select the date for which a schedule is set.
   A menu appears.
2) Select [Clear Schedule Setting].
   Click the menu [Clear Schedule Setting].
   The pattern assignment set for that date is cleared.
   * All dates set in the schedule can be canceled by clicking the [Delete All] button.



(8) Checking the annual schedule details

[Procedure]

1) Select the date for which a schedule is set.
   A menu appears.
2) Select schedule view.
   Click the menu [Schedule View]. The Schedule View opens.
3) Select the [Cancel] button.
   Click the [Cancel] button after confirming. The annual schedule set screen opens.

Note:
- The set details cannot be changed from the View screen.

Ending Annual schedule setting

Select [Send] or [Cancel].
At the end of Annual schedule setting and change, click the [Send] button.
Send : The settings are validated, the schedule is sent to the centralized controller and the monitor/ operation screen opens.
Cancel : Ignore the changes and returns to the monitor/operation screen.
(When returned to the monitor/operation screen, a schedule mark is displayed at the set group icon.)

Note:
- Depending on the setting contents, message “The today schedule may be changed. Please check a today schedule.” may appear.
  When annual schedule pattern is changed, the contents of today’s schedule also can be changed. If this message is shown, please confirm today’s schedule.

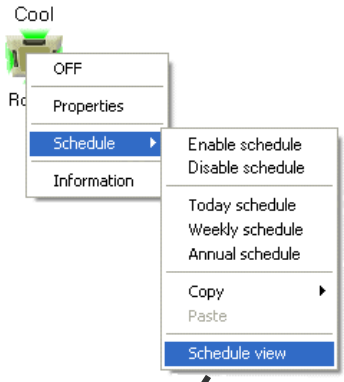
7.4 Schedule View

The details of the weekly schedule, today's schedule and the next day schedule are displayed.

Switch from the Management screen to the Schedule View

[Procedure]

1) Select schedule view.
   Click the menu [Schedule View]. The Schedule View opens.



Note:
- If "AE-200, AE-50, EB-50 or GB-50ADA" and "G-50A" units are connected in combination in the schedule view for a floor, block or whole building, the AG-150A or G-50A selection is displayed. After one is selected, the schedule is displayed.
  ("AG-150A" units: Units connected to an AE-200, AE-50, EB-50, AG-150A or GB-50ADA)

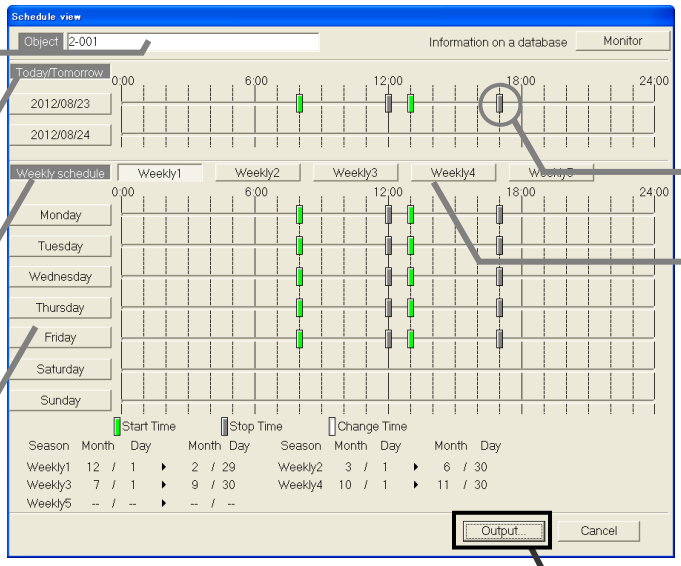
Note:
- Click the "Monitor" button to display data saved with the centralized controller.
  (* Only the current day can be monitored for the general equipment.)
- The set details cannot be changed from the Schedule View screen.
- When using batch schedule monitor for two or more groups, the setting field is highlighted in light blue if there are different settings.

Object display
Display the display object.

Today/Tomorrow display
Display the details of the schedule for today and tomorrow.

Weekly display
Display the details of the weekly schedule.

Day button
Press this button to display the detailed schedule.



Operation display box

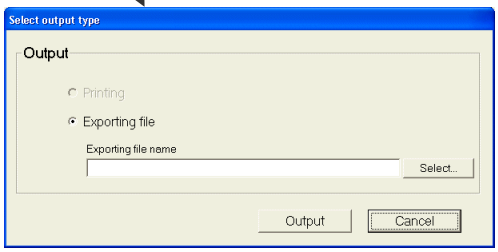
Weekly schedule selection button (For AG-150A)
Select Weekly1 through Weekly5 for Seasonal settings.

Schedule view screen

Schedule output

[Procedure]

1) Select [Output] button.
   Click the [Output] button on the schedule check screen. The output type selection screen opens.
2) Input the output file name.
   Input the folder name and output file name to be output in the output file name field. The existing folder and file name can be selected by clicking the [Select] button.
3) Select [Output].
   The file is output and the Schedule View screen opens.



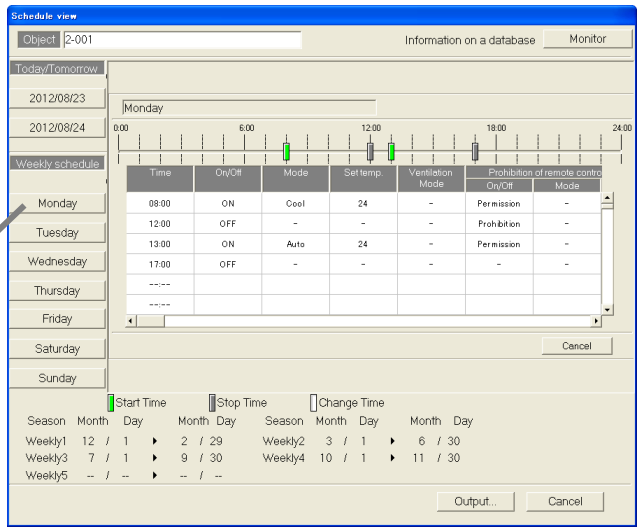
Note:
- The file is output with the CSV type format.

Schedule details display

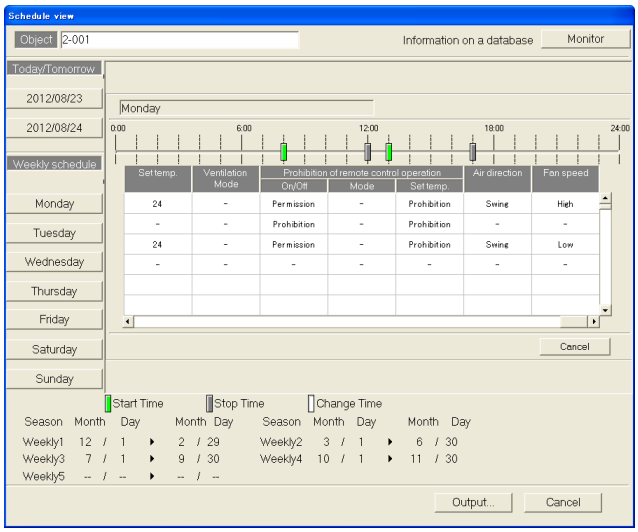
[Procedure]

1) Select the day or date button.
   The detailed view opens when the day or date button is clicked on the Schedule view display screen.
2) Select the [Cancel] button.

Day button
The schedule details appear when clicked.



* Side scrolling on the screen displays setting items for Air direction and Fan speed when AE-200/AE-50/EB-50/AG-150A/GB-50ADA is connected.
  Air direction setting and Fan speed setting are not displayed when G-50A is connected.



7.5 Schedule Copy

The details set for the schedule can be copied in group units. Select the copy target from the today's schedule, weekly schedule, annual schedule or weekly & annual schedule.

Copying schedules between groups

[Procedure]

1) Click the copy from group

When the cursor is set to Schedule of the menu displayed by clicking the copy from group, a schedule menu appears.

* The schedule menu appears when the mouse cursor is set on [Schedule] in the selected menu.

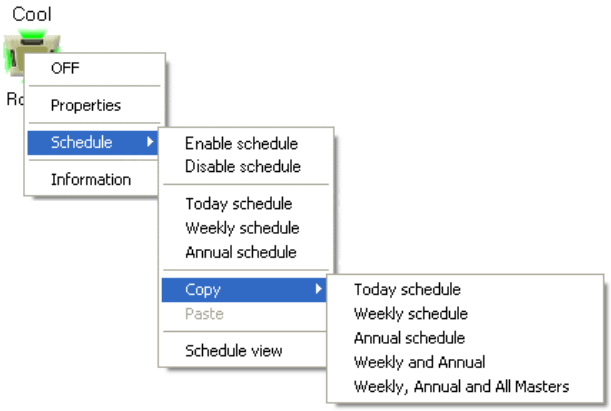
2) Select the [Today's schedule] in the [Copy] menu.

3) Select the object whose schedule is to be copied.

* The schedule menu appears when the mouse cursor is set on [Schedule] in the selected menu.

4) Select [Paste].

The entire schedule is pasted.

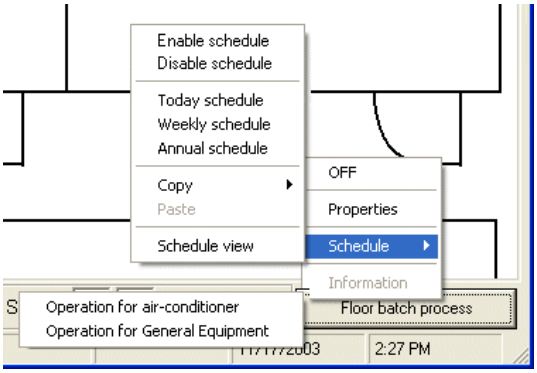


Note:

- The weekly schedule, annual schedule, weekly & annual schedule and weekly & annual & all masters schedule can be copied in the same manner.
- For weekly schedule, it is unable to copy the master weekly schedule for [Summer Master] [Winter Master], [Schedule Master1], [Schedule Master2], or [Schedule Master3] (The master weekly schedule for each master can be copied in "Weekly & annual & all masters".)

Copying the schedule in a batch

When monitoring or operating the general equipment, do not open the menu. Instead, select "Operation for air-conditioner" and "Operation for General Equipment".



7.6 Enabling/Disabling the Schedule Settings

Enable or disable the schedule setting for each group. If the schedule setting is disabled for a given group, none of its schedule settings (Today, Weekly, Annual) will be executed.

(1) Enabling the Schedule Settings

[Procedure]

1) Select [Enable schedule].

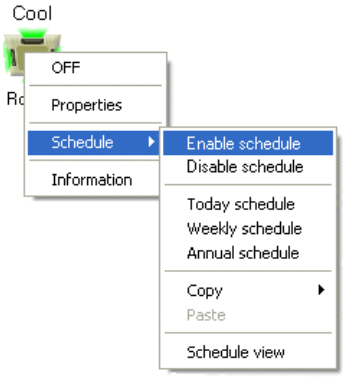
To enable the schedule settings for a given group, select "Enable schedule" from the Schedule pulldown menu.

(2) Disabling the Schedule Settings

[Procedure]

1) Select [Disable schedule].

To disable the schedule settings for a given group, select "Disable schedule" from the Schedule pulldown menu.



Note:

- The schedule settings can be enabled or disabled only on AG-150A/GB-50ADA Ver. 2.90 or later, AE-200 and AE-50. The schedule settings on G-50 or AG-150A before Ver. 2.90 will always remain enabled. (EB-50 does not support this function.)

8. Maintenance Operation

8.1 Abnormality History and Operation History

There are two kinds of history: Abnormality history and Operation history.

Item	Details
Abnormality history	Display errors currently occurring and that occurred in the past. * Click the [History Update] button to display the latest abnormality history.
Operation history	Display the operations (Operations such as on/off, charge setting, schedule setting, and error history deletion) performed in the past. * Only the limited operation item in TG-2000A excluding the operation in the remote controller or the centralized controller.

(1) Switch from Management screen to history screen

How to display the Abnormality history for each group (or block)

[Procedure]

1) Select [History] button.
   Click the [History] function select button.
2) Select the object whose history is to be displayed.
   When the object whose history is to be displayed is clicked, the History screen opens.

Note:
- For a description of the underlined part, refer to section "6.1 (2) Select the operation object" to be operated.

How to display the Abnormality history for all groups and the Operation history

[Procedure]

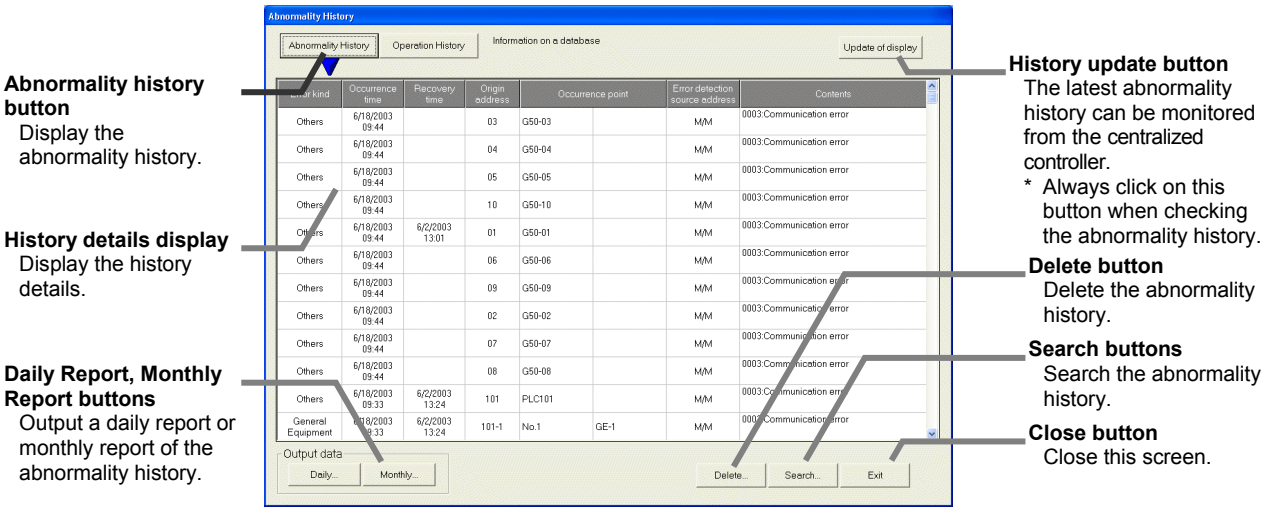
1) Select [History] button.
   Click the [History] function select button.
2) Select [Whole building] button.
   Click the [Whole building] button from the Display units buttons.
3) Select [Building batch process] button.
   Click the [Building batch process] button to display the Abnormality history.

Perform the following operations from the History screen.

(2) Description of History screens

Abnormality history

The Abnormality History screen displays air conditioner failures, transmission failures, and other abnormalities in the order in which they occurred.
(Although the number of histories depends on the system configuration, the maximum number of histories that can be stored is set for each error type and for each centralized controller. When this limit is exceeded, the oldest records are deleted.)



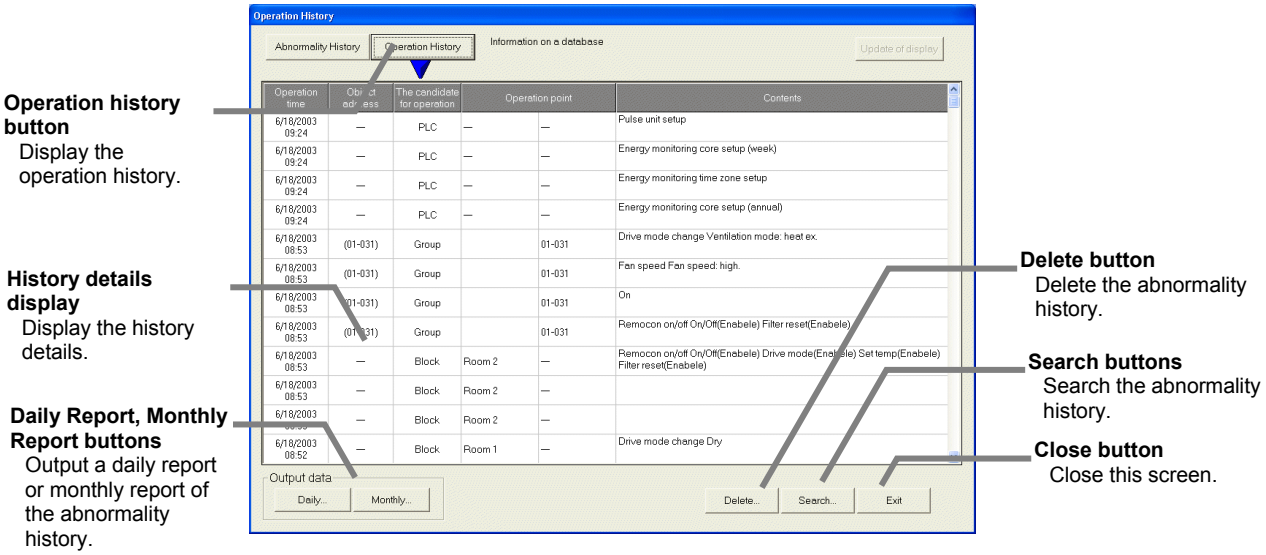
Item	Details
Error kind	Display Communication error, Unit error, and Others.
Occurrence time	Display the time the abnormality occurred.
Recovery time	Display the time the abnormality recovered. Blank indicates that the abnormality is still in effect.
Origin address	Display the centralized controller No. and address of the equipment at which the abnormality occurred.
Occurrence point	Display the occurrence floor at the left and the group or equipment name at the right.
Error detection source address	Display the centralized controller No. and address or the name of the equipment in which an error is detected.
Contents	Display the error code and its description.

Note:

- Refer to section 8.2 “Error code list” for the abnormality history contents.
- Error history will not be updated automatically. Manually update the history and check the latest error history.
- The maximum number of errors that can be recorded in the automatic output file is 3,000.
- When selecting DC group to display abnormality history on floor screen, all errors for DC comprising the group is displayed.
- On AG-150A/GB-50ADA Ver. 2.80 or later, AE-200, AE-50 and EB-50, the Abnormality history of DC will display an error code for each contact point (DIDO). On AG-150A/GB-50ADA before Ver. 2.80 or on G-50A, the Abnormality history of DC will display batch error codes.
- When selecting a meter (MCT) to display abnormality history on the floor screen, all error of MCT are displayed.
- To see the Abnormality History of the units that cannot be placed on the floor layout (such as the centralized controller and outdoor units), access the Abnormality History screen of all units.

Operation history

The operation history displays **the operation content performed by the man-machine(TG-2000A)**.
The operations in this case are limited to operations such as schedule setting, error history deletion, etc.
Up to 10,000 items can be displayed. When the number of items exceeds 10,000, the items are sequentially deleted in ascending order.



Item	Details
Operation time	Display the time the operation was performed.
Object address	Display the centralized controller No. and address of the equipment to which the operation is commanded.
The candidate for operation	Display the object operated.
Operation point	Display the occurrence floor at the left and the group or equipment name at the right.
Contents	Display the contents of the operation that was performed.

Note:

- The operation history performed by the man-machine contains the following:
  Charge setting operation, schedule setting operation, error history deletion operation, operation from integrated centralized control software TG-2000A
- The history may be displayed in an order different from the actual operated order, depending on the data storage timing.

(3) History screen operation

The Abnormality History and Operation History screen displays can be switched and updated.

[Procedure]

History display switching

When the [Abnormality history] button is clicked, the display switches to the Abnormality History screen and when the [Operation history] button is clicked, the display switches to the Operation History screen.

Display updating (Abnormality history function only)

Since the history update is monitored for all centralized controller units connected when the [History update] button is clicked, it may take time for monitor communication. When the history is updated, the updating time is displayed.

(4) History search

This function searches the histories based on the set conditions.
There are the following search items. The search conditions can be set by combining these items.

Abnormality history search

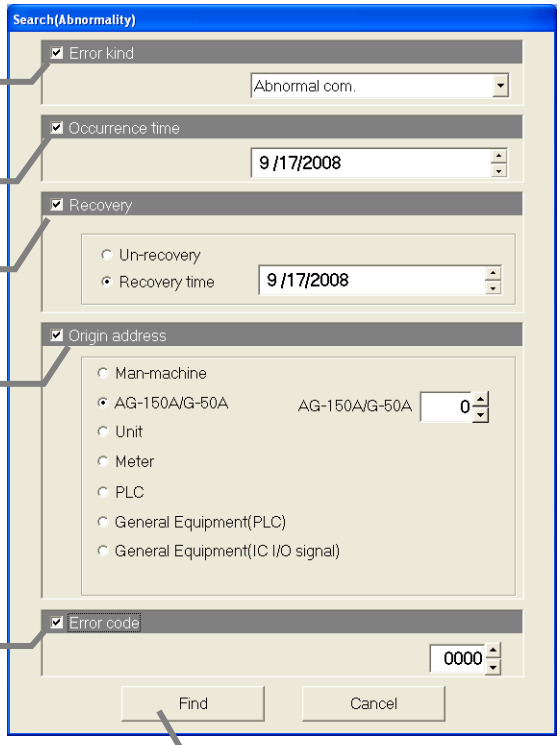
Error type
Search from the error type (communication error, unit error, etc.)

Occurrence date
Search from abnormality occurrence date

Recovery date
Search from the designated recovery date and non-recovered error.

Occurrence source address
Search from the object (Man-machine, Centralized controller, man-machine, unit, meter, PLC, general equipment) in which the error occurred.
* For Centralized controller and unit, specify the address at the same time. If the address is set to "0", all addresses are deemed to be specified.

Error code
The error code that caused the abnormality.
* For error code, it is also possible to specify multiple codes with the "*" (wild card).



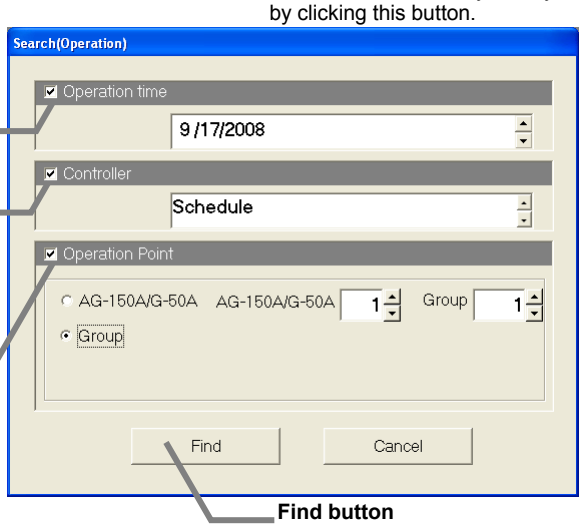
Find button
Search the abnormality history by clicking this button.

Operation history search

Operated date
Search from operated date.

Operation type
Search from the operated type (schedule, etc.).
* If "Schedule" or "Operation history" is designated, also designate the operation destination address.

Operation destination address
Search from the operated target (Centralized controller, group).
* Specify the centralized controller or group. Specify the address at the same time.



Find button
Search the abnormality history by clicking this button.

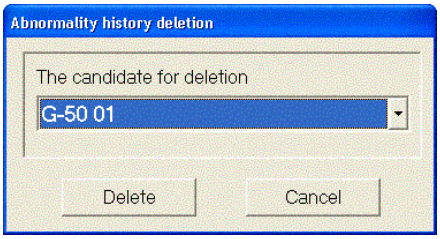
[Procedure]

1) Select [Search] button.
   When the [Search] button is clicked, a search screen opens.
2) Input the search item.
   Specify the search condition at the search item check box. Specify the object with the Option button.
   * Numerics can be input by clicking the "▲/▼" buttons at the right-hand side of the numeric part or by clicking the numeric part. They can also be input from the keyboard.

   Search conditions can also be combined by selecting multiple items.
   (The search is executed in accordance with the AND condition.)
3) Select [Find] button.
   After setting the search conditions, click the [Search] button.
   (If there is no history that meets the set conditions, nothing is displayed.)
   Find : Displays, on the history screen, histories that meet the search conditions.
   Cancel : Returns to the history screen.

(5) History delete

Error history delete



[Procedure]

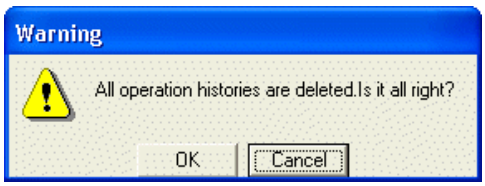
1) Select [Delete] button.
   When the [Delete] button is clicked, the Delete screen opens.
2) Select the error history to delete.
   Select the centralized controller, man-machine or All to delete from the combo box.

Note:
- For deletion, the abnormality history retained by each centralized controller ,man-machine or All is completely deleted.

3) Select the [Delete] button.
   Click the [Delete] button after setting the error history to delete.
   In this case, all object equipment histories are deleted, and the history display screen is resumed.
   * When the [Cancel] button is clicked, the history display screen is resumed without the history deleted.

Note:
- Once deleted, histories cannot be recovered.

Operation history delete



[Procedure]

1) Select [Delete] button.
   When the [Delete] button is clicked, the Delete screen opens.
2) Select [OK] button.
   When the [OK] button is clicked, the history display screen is resumed with all histories deleted.
   * When the [Cancel] button is clicked, the history display screen is resumed without the history deleted.

(6) History output

Output daily or monthly history.
The output is only compatible with the file output (CSV format).
(Search results history cannot be output.)

[Procedure]

1) Select [Daily] or [Monthly] button.
   When the [Daily] or [Monthly] button is clicked, the Output History screen opens.
2) Input the date to be printed
   Set the date with the "▲/▼" buttons at the right-hand side of the numeric part.
   * When the numeric part is clicked, the date can also be input from the keyboard.
   * (Click the [Cancel] button to stop output.)
   * For monthly reports, only the year and month are used, but the day setting value is ignored.
3) Input the output file name.
   Set the file name input.
   * When the [Select] button is clicked, it is possible to enter the location to save the file in.
4) Select [Output] button.
   When the [Output] button is clicked, the histories generated within the input range are output.
   * When the [Cancel] button is clicked, the history display screen is resumed without the history output.

8.2 Error Code List

(1) Air-conditioning unit error codes

The following is a list of the error codes and their meaning. (A) indicates A-control units

0000	Overall abnormality
0100	Equipment abnormality
01*0	Equipment abnormality (PAC-YG66DCA) in system *
01**	Equipment abnormality in system **
0403	Serial transmission trouble
0404	Indoor unit EEPROM abnormality (A)
0701	Combustion circuit abnormality (A)
0702	Overheat protection for the combustion heat exchanger (A)
0703	Accidental fire (A)
0704	Heater abnormality (A)
0705	Seismoscope malfunction (A)
0706	Flame current sensor abnormality (A)
0707	Ignition problem (A)
0708	Blower motor rotational speed abnormality (A)
0709	Oil pump circuit abnormality (A)
0900	Test run
1000	Ref.cycle abnormality
10*0	Ref.cycle abnormality in line *
1102	Discharge temperature abnormality (TH4) (A)
1108	Inner thermo (49C) trip (A)
11**	Ref.cycle temperature abnormality - Common operand: **
12**	Ref.cycle temperature abnormality allowance - Common operand: **
1300	Low pressure abnormality (63L trip) (A)
13**	Ref.cycle pressure abnormality - Common operand: **
14**	Ref.cycle pressure abnormality allowance - Common operand: **
1500	Ref.cycle not operate due to overcharge
1501	Ref.cycle not operate due to undercharge (/compressor shell temperature abnormality)
1502	Ref.cycle not operate due to liquid back /Low pressure abnormality (63L trip) (A)
1503	Ref.cycle not operate due to coil frost
1504	Ref.cycle not operate due to overheat protection
1505	Ref.cycle not operate due to compressor vacuum operation protection/refrigerant low temperature abnormality
1506	Ref.cycle not operate due to refrigerant pump abnormality
1507	Ref.cycle not operate due to composition detection abnormality
1508	Ref.cycle not operate due to control valve fault
1509	Ref.cycle not operate due to high pressure abnormality (ball valve closed)
1510	Ref.cycle gas leakage
1511	Ref.cycle not operate due to oil slick abnormality
1512	Ref.cycle not operate due to a stop of freezing protection function
1513	Ref.cycle brine freezing
1559	Oil balance circuit abnormality
1600	Ref.cycle - Preliminary overcharge refrigerant trouble
1601	Ref.cycle - Preliminary lacked refrigerant trouble
1605	Ref.cycle - Preliminary suction operation protection
1606	Ref.cycle - Preliminary gas pump abnormality
1607	Ref.cycle - Preliminary CS circuit closed detection abnormality
1608	Ref.cycle - Preliminary control valve abnormality
1659	Ref.cycle - Preliminary oil balance circuit abnormality
2000	Water system abnormality (Pump interlock abnormality)
20*0	Water system abnormality in line *
21**	Water system temperature abnormality - Common operand: **
22**	Water system temperature abnormality allowance - Common operand : **
23**	Water system pressure abnormality - Common operand: **
24**	Water system pressure abnormality allowance - Common operand: **
2500	Water system not operate due to water leak
2501	Water system not operate due to water supply suspension
2502	Water system not operate due to drain pump abnormality
2503	Water system not operate due to drain sensor abnormality/float switch function

2504	Water system not operate due to liquid level abnormality
2505	Water system not operate due to cool water valve abnormality
2506	Water system not operate due to warm water valve abnormality
2507	Water system not operate due to dew condensation prevention control activated
2600	Water system operation restricted due to water leak
2601	Water system operation restricted due to water supply suspension/humidifier water supply suspension
2602	Water system operation restricted due to drain pump abnormality
2603	Water system operation restricted due to drain sensor abnormality
2604	Water system operation restricted due to liquid level abnormality
2613	Water system drop in water flow rate
3152	Air system operation restricted due to inverter control box inner temperature abnormality
3182	Air system operation restricted due to housing inner temperature abnormality
3252	Air system operation restricted due to preliminary control box temperature abnormality
3600	Air system operation restricted due to filter clogging
3601	Air system operation restricted due to filter maintenance
3602	Air system operation restricted due to damper position detecting abnormality
37**	Air system operation humidity abnormality allowance - Common operand: **
38**	Air system operation humidity abnormality - Common operand: **
4000	Electric system abnormality
40*0	Electric system abnormality in line *
4100	Electric system not operate due to overcurrent shut-off
4101	Electric system not operate due to overcurrent protection
4102	Electric system not operate due to open phase /Open phase (T phase), (A)
4103	Electric system not operate due to reversed phase/open phase
4104	Electric system not operate due to electric leak
4105	Electric system not operate due to short circuit
4106	Electric system not operate due to self power supply OFF/power failure
4107	Electric system not operate due to overlord
4108	Electric system not operate due to overlord protection/OCR51C /Open phase (S phase), Open connector 51CM (A)
4109	Electric system not operate due to OCR51F
4110	Electric system not operate due to high voltage part
4111	Electric system not operate due to bus current
4112	Electric system not operate due to coil overheat 49°C
4113	Electric system not operate due to heater overheat
4114	Electric system not operate due to fan controller abnormality
4115	Electric system not operate due to power supply synchronism abnormality /Input circuit (circuit board) defect
4116	Electric system not operate due to motor abnormality/speed abnormality
4117	Compressor self-protection function trip (A)
4118	Reversed phase detection circuit (circuit board) problem (A)
4119	More than 2 connectors are open. (A)
4121	Electric system not operate due to trouble in equipment to which a measure against higher harmonics is taken
4123	Electric system not operate due to Inverter output error
4124	Electric system not operate due to damper abnormality
4125	Electric system - Rush-proof circuit abnormality
4126	Electric system - Preliminary overcurrent protection/OCR51C
4162	Electric system not operate due to compressor coil temperature abnormality delay
4163	Electric system not operate due to preliminary fan controller abnormality
4165	Electric system not operate due to preliminary power synchronization error
4171	Electric system - Preliminary trouble in equipment to which a measure against higher harmonics is taken
4200	Inverter abnormality
420*	Inverter abnormality - Inverter No.: *
4210	Inverter overcurrent shut-off
421*	Inverter overcurrent shut-off - Inverter No.: *
4220	Inverter bus voltage insufficiency / Voltage abnormality (A)
422*	Inverter bus voltage insufficiency - Inverter No.: *
4230	Inverter radiating thermostat abnormality
423*	Inverter radiating thermostat abnormality - Inverter No.: *

4240	Inverter overcurrent (overload) protection
424*	Inverter overcurrent protection - Inverter No.: *
4250	Inverter IPM/bus voltage abnormality /Power module abnormality (A)
425*	Inverter IPM abnormality *
4260	Inverter cooling fan trouble
426*	Inverter cooling fan trouble - Inverter No.: *
4300	Inverter abnormality allowance
430*	Inverter abnormality allowance - Inverter No.: *
4310	Inverter overcurrent shut-off allowance
431*	Inverter overcurrent shut-off allowance - Inverter No.: *
4320	Inverter bus voltage insufficiency allowance
432*	Inverter bus voltage insufficiency - Inverter No.: *
4330	Inverter radiating thermostat abnormality allowance
433*	Inverter radiating thermostat abnormality allowance - Inverter No.: *
4340	Inverter overcurrent protection abnormality
434*	Inverter overcurrent protection abnormality - Inverter No.: *
4350	Inverter IPM abnormality allowance
435*	Inverter IPM abnormality allowance *
4360	Inverter preliminary cooling fan trouble
436*	Inverter preliminary cooling fan trouble - Inverter No.: *
5000	Sensor trouble
50*0	Sensor trouble in system *
51**	Temperature sensor trouble - Sensor No.: **
5202	Open connector (63L)（A）
52**	Pressure sensor trouble - Sensor No.: **
5300	Current sensor abnormality（A）
53**	Current sensor trouble - Sensor No.: **
54**	Humidity sensor trouble - Sensor No.: **
55**	Gas sensor trouble - Sensor No.: **
56**	Air speed sensor trouble - Sensor No.: **
57**	Limit switch trouble - Switch No.: **
58**	Sensor trouble - Sensor No.: **
59**	Other sensors trouble - Sensor No.: **
6000	System abnormality
6101	System not operate due to abnormality - With response frame
6102	No answer back
6200	Controller H/W abnormality
6201	E2PROM abnormality
6202	RTC abnormality
6204	External memory read/write error
6205	External memory cannot be written to any more
6500	Communication error
6600	Communication error - Address duplicate
6601	Communication error - Polarity unsettled
6602	Communication error - Transmission processor hardware error
6603	Communication error - Transmission line busy
6604	Communication error - No ACK (06H) (communication circuit error)
6605	Communication error - No response frame
6606	Communication error - Transmission processor communication error
6607	Communication error - No ACK return
6608	Communication error - No return of response frame
6609	Communication error
6610	Communication error
6700	Communication error - K-transmission abnormality
6701	Communication error - K-transmission error
6702	Communication error - K-address duplicate
6750	Communication error - K abnormality code PO
6751	K abnormality - Room temperature thermistor abnormality
6752	K abnormality - Indoor coil thermistor abnormality, Condensation temperature sensor abnormality
6753	K abnormality - Transmit/receive error
6754	K abnormality - Drain sensor abnormality, Float switch function

6755 K abnormality - Drain pump abnormality
6756 K abnormality - Coil frost/overheat protection
6757 K abnormality - System error
6758 K abnormality - Outdoor unit trouble, Indoor/outdoor communication error
6761 K abnormality - Room temperature thermistor abnormality
6762 K abnormality - Indoor coil thermistor abnormality, Condensation temperature sensor abnormality
6763 K abnormality - Transmit/receive error
6764 K abnormality - Drain sensor abnormality
6765 K abnormality - Drain pump abnormality
6766 K abnormality - Coil frost/overheat protection
6767 K abnormality - Outdoor unit trouble - Indoor/outdoor communication error
6771 K abnormality - High pressure abnormality, Low pressure abnormality
6772 K abnormality - Inner thermostat function, Discharge temperature abnormality, Shell thermostat function, Overcurrent protection
6773 K abnormality - Radiator plate thermostat function
6774 K abnormality - Outdoor thermistor abnormality
6775 K abnormality - Pressure sensor abnormality, Indoor/outdoor communication error
6776 K abnormality - Overcurrent shut-off
6777 K abnormality - System error
6778 K abnormality - Normal
6779 K abnormality - Refrigerant overcharge, Abnormal voltage, Abnormal CT sensor
6800 Communication error - Other communication errors
6801 Communication error - V-control communication error
6810 Communication error - UR communication error
6811 Communication error - UR communication synchronism not recover
6812 Communication error - UR communication hardware error
6813 Communication error - UR communication status bit detection error
6820 Other communication errors
6821 Other communication errors - Transmission line busy
6822 Other communication errors - No communication ACK
6823 Other communication errors - No response command
6824 Other communication errors - Receive data error
6830 Communication error - MA communication refrigerant address double setting error
6831 Communication error - No MA communication reception error
6832 Communication error - MA communication synchronism not recover
6833 Communication error - MA communication transmission/reception hardware trouble
6834 Communication error - MA communication start bit detection error
6840 Communication error - A control no indoor/outdoor communication/reception abnormality
6841 Communication error - A control indoor/outdoor communication synchronization recovery abnormal
6844 Communication error - A control indoor/outdoor communication incorrect indoor/outdoor wiring connection, excessive number of indoor units (more than five units)
6845 Communication error - A control indoor/outdoor communication incorrect indoor/outdoor wiring connection (telecommunication, disconnection)
6846 Communication error - A control indoor/outdoor communication startup time exceeded
6920 Communication error - No response (Expansion Controller)
6922 Communication error - Receiving frame ID error (Expansion Controller)
7000 System abnormality
7100 System abnormality - Total capacity error
7101 System abnormality - Capacity code error
7102 System abnormality - Connecting unit number excess
7103 System abnormality - Piping length setting error
7104 System abnormality - Floor height setting error
7105 System abnormality - Address setting over 254
7106 System abnormality - Attribute setting error
7107 System abnormality - Distributor setting error
7108 System abnormality - Ref. system setting error
7109 System abnormality - Connection setting error
7110 System abnormality - Ref. system connection/connection data unsettled
7111 System abnormality - I/O connection equipment not connected/remote controller sensor abnormality

7112 System abnormality - I/O type setting error
7113 System abnormality - Equipment unsettled
7116 System abnormality - Replace non-wash setting error
7117 System abnormality - Model identification setting error
7130 System abnormality - Different unit model error
7131 System abnormality - Mixed cooling only H/P connection error (Facility PAC)
7132 System abnormality - Multiple entries of operation performance (Facility PAC)
7200 System abnormality - Numeric values unsettled
7201 System abnormality - Numeric values unsettled
73** System abnormality - LON-system equipment abnormality
7901 System abnormality - Excessive number of connected units (Expansion Controller)
7902 System abnormality - Connection lock error (Expansion Controller)
7903 System abnormality - Unit information error (Expansion Controller)
7904 System abnormality - System setting error (Expansion Controller)
7905 System abnormality - Version error (Expansion Controller)
8000 Error reset

Note:
- Error codes that are not displayed with some TG-2000A systems are also listed.
- Error code “8000” indicates that the error has been restored.

(2) System error codes

The following is a list of the error codes and their meaning.

Centralized controller error
0003 Communication error
0008 Communication error (PLC - AG-150A/G-50A)
0009 Operation amount calculation error

PLC error
0003 Communication error
0004 Power Failure detection
0005 Battery drop warning
0006 PLC diagnosis error
0007 PLC stop

General equipment error (For both PLC and IC I/O signal)
0091 General Equipment error

IC I/O signal error
0090 IC I/O signal error

WHM malfunction prediction (When amount 0 of the electric power continues on 3 days)
0095 Electric amount calculation malfunction prediction error

When the Energy monitoring file was not automatically output
0096 Energy monitoring file automatic output error

Notes:
- Display TG-2000A, Centralized controller, PLC and general equipment error codes by a number up to 4 digits long.
  The meaning is different from that of the air-conditioner unit error codes.
- If the error "0003" occurs on the unit connected to Centralized controller, check that the "Web monitor" license is valid.

8.3 Filter Reset (Check water circuit Reset) Operation

8.3.1 Automatic Status Display

This section describes the procedure when “Filter sign automatic display” (standard) of function setting was selected.
Check water circuit of Air To Water (PWFY) can be reset under the same procedure.

(1) Switch from Management screen to filter reset screen

[Procedure]

1) Select [Filter reset] button.

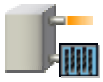
When the [Filter reset] function select button is clicked, the filter reset screen opens.
When Air To Water (PWFY) is connected, "Check water circuit" is also displayed.
Select the target floor with the floor switching box.

(2) Description of filter reset screen

For the filter sign, the filter icon is displayed for the group icon.
When Air To Water (PWFY) is connected, "Check water circuit" icon is displayed.

*The filter sign is displayed only for the group concerned.
This is not compatible with the general equipment.

Indoor unit
Filter sign



Air To Water (PWFY)
Check water circuit

(3) Filter reset

[Procedure]

1) Select a group.

When a group displaying the filter sign is clicked, the filter reset check screen opens.
To reset the whole floor, press the [Floor batch process] button.

2) Select the reset type.

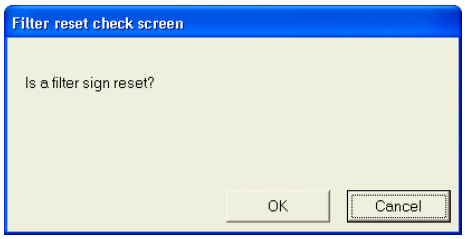
Selecting the [Floor-batch] button selects whether the unit in which the filter sign occurred or the units of all floors are reset.

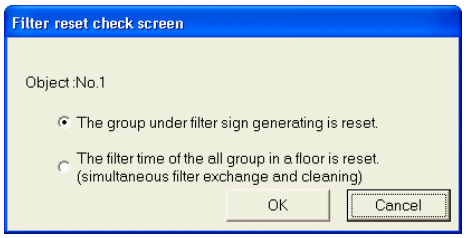
* It is displayed only when All-floor is selected.

3) Select [OK] button.

When the [OK] button is clicked, the filter sign is reset.

* When the [Cancel] button is clicked, the filter sign screen is resumed without resetting the filter sign.




Filter reset check screen
Object :No.1
The group under filter sign generating is reset.
The filter time of the all group in a floor is reset. (simultaneous filter exchange and cleaning)
OK
Cancel

(4) Check water circuit reset

[Procedure]

1) Select a group.

When a group displaying the check water circuit sign is clicked, the water circuit reset check screen opens.
To reset the whole floor, press the [Floor batch process] button.

2) Select the reset type.

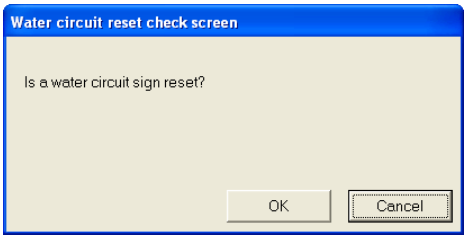
Selecting the [Floor-batch] button selects whether the unit in which the check water circuit occurred or the units of all floors are reset.

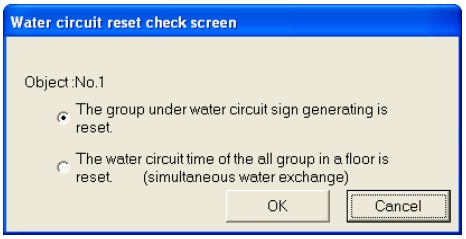
* It is displayed only when All-floor is selected.

3) Select [OK] button.

When the [OK] button is clicked, the check water circuit is reset.

* When the [Cancel] button is clicked, the check water circuit screen is resumed without resetting the check water circuit.




Water circuit reset check screen
Object :No.1
The group under water circuit sign generating is reset.
The water circuit time of the all group in a floor is reset. (simultaneous water exchange)
OK
Cancel

Maintenance Tip

- Always perform filter (or water circuit) maintenance (cleaning, replacement, etc.) of the actual equipment before using this function to reset the filter sign (or check water circuit).
- When the filter sign (or check water circuit) is reset after selecting all groups within a floor, the cumulative time at which filter (or water circuit) needs cleaning is reset to "0" for the groups for which the filter sign (or check water circuit) is reset and for which the filter sign (or check water circuit) has not yet been set.

8.3.2 Manual Status Display

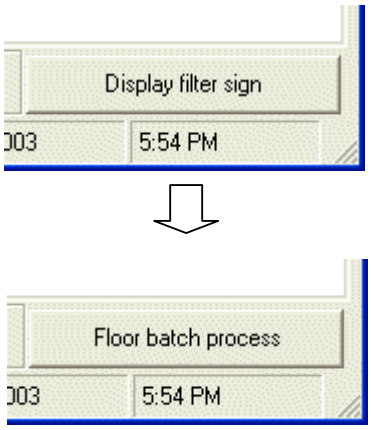
This section describes the procedure when “Filter sign manual display” (special) of function setting was selected.

Check water circuit of Air To Water (PWFY) can be reset under the same procedure.

(1) Switch from Management screen to filter reset screen

[Procedure]

1) Select [Filter reset] button.
   When the [Filter reset] function button is clicked, the filter reset screen opens.
   Select the target floor with the Floor switching button.
2) Select [Filter sign display] button.
   When the [Filter sign display] button located on the lower left of the screen is clicked, the filter sign is displayed with the filter maintenance information reflected. In this case, the display located on the lower left of the screen is changed to the [Floor-batch] button.



(2) Description of Filter reset screen

Same as section 8.3.1 (2).

(3) Filter reset

Same as section 8.3.1 (3).

(4) Check water circuit reset

Same as section 8.3.1 (4).

8.4 Operation Time Display

The air-conditioner operation time is counted in a group unit and displayed.

Note:
- The "power apportioning billing" license must be registered in all centralized controller to use this operation time display function. If the license is not registered in the centralized controller, the cumulative operation time will not be displayed correctly.
  This operation time cannot be displayed if the charging function is set to "Off" on the man- machine's initial setting screen.
- This is not compatible with the general equipment.

(1) Switching from Monitor/Operation screen to Operation time screen

[Procedure]

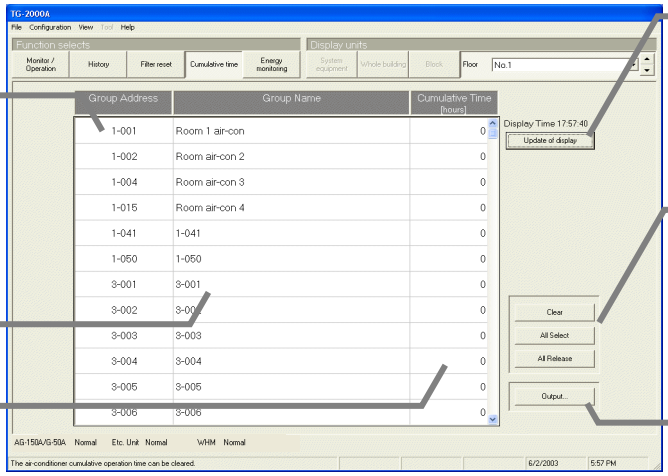
1) Select the [Operation Time] button.
   The Operation time screen opens when the [Operation Time] button is clicked. Select the target floor with the floor switching box.

(2) Explanation of Operation time screen

Group address
Display the group address "(Centralized controller No.) -(address)".
Display "(Centralized controller No.) -(EC No.)-(Address)" when AG-150A is connected to expansion controllers (EC).

Group name
Display the group name.

Operation time
Display the group operation time (unit: time).



Screen update button
The display can be updated with the latest information. The updated time is displayed at the Updated Time on the right of the screen.

Clear/Select All/Cancel button
Clear the operation time. Selects all objects to be cleared, or cancels the selection. Click the object group to select individual groups.

Output button
Print or output the operation time data.

Note:
- Click the [Screen Update] button and update to the latest information when displaying the operation time. (This is because the set time update is carried out only once a day.)
- Once deleted, the operation time cannot be recovered.

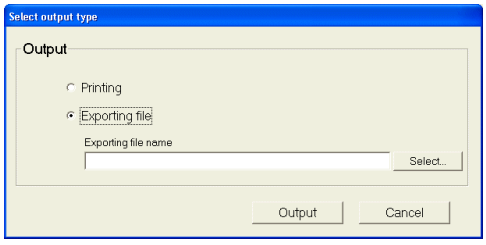
(3) Operation time reset

[Procedure]

1) Select the group.
   When the group to be reset is clicked on the screen, the group is selected and changes to blue. The selection is canceled when clicked again.
   * All groups can be selected by clicking [Select All]. All selections can be canceled by clicking [Cancel].
2) Select the [Clear] button.
   The operation time for the selected group is cleared when [Clear] is selected.

(4) Operation time data output

The operation time data can be printed or output to a file (CSV format).



[Procedure]

1) Select the [Output] button.
   The Operation time output screen opens when selected.
2) Select [Printer Output] or [File Output].
   Click the [Printer Output] option button to print the data, and click the [File Output] option button to output the data to a file. When outputting to a file, input a file name, and click the [Select] button to select the storage destination.
3) Select the [Output] button.
   All operation times for the displayed floor are output.
   * If the [Cancel] button is clicked, the data is not output, and the Operation screen opens.

8.5 Abnormality Occurrence

8.5.1 Abnormality Display

It is possible to confirm the state of errors occurring on the Management screen at the lower part on the group icon or the monitor/operation screen, and on the screen of floor, block, whole buildings, and system equipment.

(1) Display when abnormality occurs

	Floor screen	Whole building screen	Block screen	System equipment screen
Error in Indoor unit/DC for general equipment		"✕" display (orange) * Group unit	"Abnormality" display * When there is an abnormal unit.	-
Error in PLC for general equipment		"■" display (orange) * General equipment unit	-	-
Error in general equipment for IC I/O signal		"■" display (orange) * General equipment unit	-	-
Error in measuring meter		"■" display (red) * Measuring sensor unit	-	-
Outdoor unit abnormality		-	-	
Centralized controller abnormality	 * Object group	-	-	
Expansion controller (EC) abnormality	 * Object group	-	-	
PLC error		-	-	
WHM error	-	-	-	

* For units other than the indoor unit and general equipment, refer to the System equipment screen to find which unit is abnormal.

Note
- In the combination system of AE-200/AE-50, after recovery from the power outage or LAN communication error of the AE-50, about 10 minutes, icons of the air-conditioner which is connected to the AE-200 will be (orange) abnormal display, you will not be able to operate. Then, abnormal display is released, to return to the operation possible.

There is a “Unit normal/abnormal” display on the monitor/operation screen. “Normal” or “Abnormal” blinks on the screen.

Unit type	Error display conditions
AG-150A/G-50A	Centralized controller or Expansion controller error (incl. communication error) has occurred. * While the centralized controller or the expansion controller is starting up, the display will show that the units are normal, but the group icons will appear as error icons.
Etc. Unit	An error (incl. communication error) has occurred with a unit other than the ones listed below. • Centralized controller • Expansion Controller • Indoor unit • General equipment (PLC for general equipment, DC, IC I/O signal) • AI controller • WHM (PI controller, PLC for measurement meter)
WHM	WHM error (incl. communication error) * When a PI controller is being used, a communication error with the Centralized controller or the Expansion Controller will appear as an error.

Note
- Even when the indoor unit error is displayed, the error might not be in the error history. In this case, temporarily turn off the indoor unit that has an error.

8.5.2 Abnormality Reset Operation

The abnormality reset operation can send an abnormality reset command to an abnormal unit. When the cause of the error is not actually removed, however, the error is detected again even if the error is reset.

Equipment which can be reset:

Indoor unit, outdoor unit, remote controller, system remote controller, WHM, Centralized controller (self-detected error only)

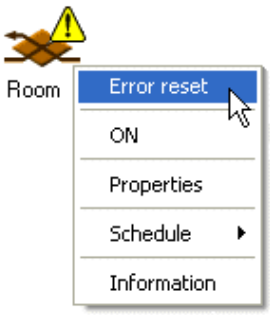
Note:

- It is unable to reset the centralized controller communication error. (Except for communication errors detected by the centralized controller itself)
- The error is completely reset for each centralized controller.
  When the errors are reset, air conditioning units stop and require manual operation if they need to be started back up.
- To reset errors for each group that the unit in error belongs to, set the group icon to OFF in the floor screen.

(1) Abnormality reset method

[Procedure]

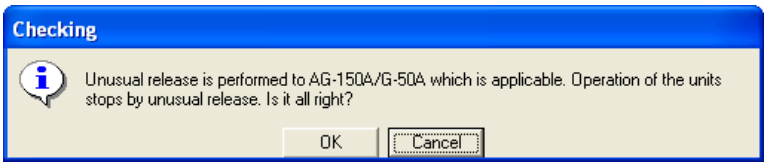
1) Select [Monitor/Operation].
   When the [Monitor/Operation] function select button is clicked, the monitor/operation screen opens.
2) Select the object to be reset.
   When the object to be reset is clicked, the menu screen opens.



Note:

- For a description of the underlined part, refer to section “6.1 (2) Select the operation object” to be operated.

3) Click the [Error Reset] button.
   When the Error reset is clicked, a check screen is displayed.


Checking
Unusual release is performed to AG-150A/G-50A which is applicable. Operation of the units stops by unusual release. Is it all right?
OK
Cancel

4) Select [OK] button.
   When the [OK] button is clicked, the abnormality reset operation is performed.
   * When the [Cancel] button is clicked, the operation/ monitor screen is resumed without resetting the error.

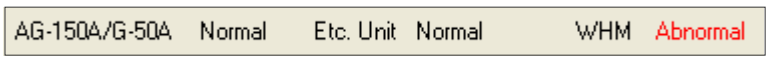
8.5.3 PLC and Meter Troubleshooting

A meter abnormality is detected by the meter monitor when the connected meter fails or the transmission line is disconnected.

(1) Abnormality detection display

When a meter abnormality is detected, "Abnormality" appears at the "WHM" section in the system status display.

* The meter is displayed "WHM" such as a watt hour meter.



Note:

- The meter abnormal or normal state is updated periodically at the system status section on the Monitor/Operation screen.

(2) Abnormality display reset

Check the PLC (or MCT) or meter device and wiring, and remove the cause of the abnormality.

Note:

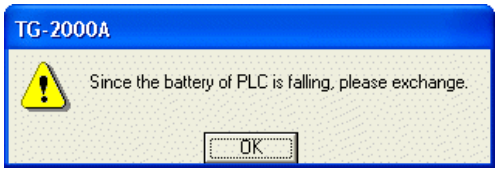
- The power apportioning billing function will be affected so pinpoint and remedy the cause as soon as possible.
- Refer to section 8.6 for details on monitoring the meter's cumulative value.
- When a fault occurs in the PLC for general equipment, the cause must be pinpointed and remedied immediately. Failure to do so could prevent proper operation or monitoring.

(3) Battery voltage low abnormality display and troubleshooting

A warning appears on the screen when a drop in the PLC battery voltage is detected.

* The state is periodically monitored once a day.

Replace the PLC battery.



8.5.4 Warning Message Screen Display

The warnings and cautions displayed on the message screen and the remedy methods are explained in this section.

(1) Message: "There is the possibility of watt hour meter failure"

Setting conditions:

When fault prediction function is valid.

Target:

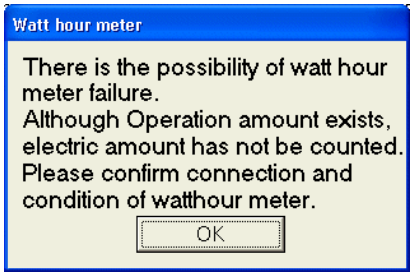
Charge apportioning WHM

Conditions for occurrence:

When the electric amount has been 0 kWh for three consecutive days even when the air-conditioner is running.

Remedy:

Check the wire connections around the WHM.


Watt hour meter
There is the possibility of watt hour meter failure.
Although Operation amount exists, electric amount has not be counted.
Please confirm connection and condition of watthour meter.
OK

Remarks :

If the WHM's pulse output is 10 kWh/pulse, this message may appear even when the wiring is correct. And if the usage of the air conditioner is low, this message may appear even when the pulse output is 1 kWh/pulse.

Also, if two or more unit prices are set, this message may appear when the electric amount is 0 kWh for the consecutive two days.

Note:

- This "Fault prediction" can be invalidated on the "Apportion mode" screen of the billing system set-up.
  When invalidated, a warning message will not appear, even if the watt hour meter fails.

(2) Message: "The free disk space of a trend output place drive has decreased. Please increase a free disk space."

Setting conditions:

When trend function is valid.

Target:

Drive to which trend data is automatically output.

Conditions for occurrence:

When HDD capacity drops below specified level.

Remedy:

Increase the open space in the drive to which the trend data is automatically output.

Delete unnecessary trend data files, or change to another medium.

Remarks:

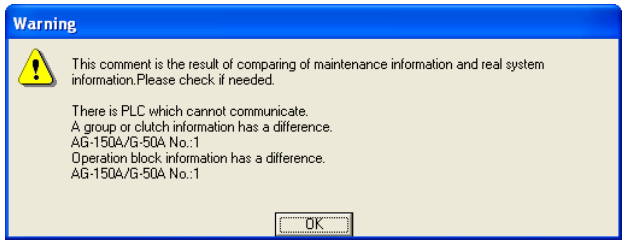
The capacity at which the warning appears differs according to the system configuration. (Range between 300MB and 700MB)

(3) Message: "This comment is the result of comparing of maintenance information and real system information. Please check if needed."

Setting conditions:

Always under the following conditions.

1) When TG-2000A is started up.
2) When the setting details are sent to Centralized controller at shift from initial screen to Management screen.


Warning
This comment is the result of comparing of maintenance information and real system information.Please check if needed.
There is PLC which cannot communicate.
A group or clutch information has a difference.
AG-150A/G-50A No.:1
Operation block information has a difference.
AG-150A/G-50A No.:1
OK

Target:

Information saved in TG-2000A system and Centralized controller system information

Conditions for occurrence:

When there is a difference in the information saved in TG-2000A system and the system information set in the Centralized controller.

Remedy:

Depending on the displayed details and necessity, check the setting details or connection state, etc. If the details set in the integrated centralized control software TG-2000A are different, correct the settings, and then send them to the centralized controller again.

Displayed details	Example of remedy
A group or clutch information has a difference.	Check whether there is a difference in the actual system and set information. Also check the errors in communication between Centralized controller and the connected units. (*1)
Charge system information has a difference.	Check whether there is a difference in the refrigerant system setting information and actual system. Check whether the charge setting time zone settings are correct.
Energy monitoring system information on PLC has a difference.	Check whether the charge setting time zone settings are correct.
Operation block information has a difference.	Check whether there is a difference in the operation block setting information and actual system. Check whether all groups are set in the operation block.
Energy-saving information has a difference.	Check whether the energy saving and peak cut setting information differs from the actual operation.
Centralized controller of the abnormalities in communication exists.	Check the centralized controller LAN connection or the power ON state.
There is difference for connection of "EC".	Check the actual connection between AG-150A and expansion controllers (EC), and the connection settings that were set on TG-2000A.
There is PLC which cannot communicate.	Check the PLC LAN connection or the power ON state.
The air conditioner monitor function cannot be used with this PLC for general equipment.	Check if the functions in the PLC for general equipment software being used differ from the functions set with the PLC for general equipment software.
The peak cut function cannot be used with this PLC for general equipment.	Check if the functions in the PLC for general equipment software being used differ from the functions set with the PLC for general equipment software.
The general equipment status monitor function cannot be used with this PLC for general equipment.	Check if the functions in the PLC for general equipment software being used differ from the functions set with the PLC for general equipment software.
"It is updated from TG-2000A only" cannot be selected with this PLC for general equipment.	Since "It is updated from TG-2000A only" cannot be selected for the general equipment's operation and display with the PLC for general equipment software in use, cancel the check in the "It is updated from TG-2000A only" box on the PLC for general equipment software's General Equipment Set-up screen.
The schedule function cannot be used with this PLC for general equipment.	Since "Schedule" cannot be set for the general equipment's operation and display with the PLC for general equipment software in use, cancel the check in the "Schedule" box on the PLC for general equipment software's General Equipment Set-up screen.
More than nine general equipment cannot be controlled with this PLC for general equipment.	Since more than nine general equipment cannot be controlled with this PLC for general equipment software, invalidate the settings for the extra general equipment on the General Equipment Set-up screen. Make sure that more than nine general equipment are not actually connected to the PLC for general equipment.
Charge calculation error. Database is restored to the state before the error. (occurrence day:mm/dd/yyyy) (*2)	The data is normally forwarded to the next day, so just click “OK” button. However, if the result of per diem charge is required for liquidation, perform the remedial apportioning.

(*1) Centralized controller might possibly have started up while the connected unit had a communication error with Centralized controller, or before the connected unit started up completely. Remove the cause of the communication error and restart Centralized controller.

(*2) Date indication varies depending on the date format on Windows (OS).

Remarks:

If the details set in the integrated centralized control software TG-2000A and the actual operation match, send the settings on the initial setting screen, and then check.

The warning display screen will close when the "OK" button on this screen is pressed. Operations and monitoring can be continued with the saved information.

Note:

- If there are system data mismatches (e.g., between Centralized controller No. and Group No. (or address)), a list of those mismatches will be output in the CSV format (applicable to TG-2000A ver. 6.20 or later).
  Refer to this file when data problems cannot be resolved by following the directions in the message window.
  Folder: C:¥TG2000¥Mismatch¥YYYY¥MM (YYYY: Year, MM: Month)
  File: MismatchList_YYYYMMDD.csv (YYYY: Year, MM: Month, DD: Day)
  The data for the last two years can be saved in this CSV file. (TG-2000A Ver. 6.36 or later)
- The new mismatch data may not be output when MismatchList_YYYYMMDD.csv is open. Copy the file to a temporary location when opening it. Do not open the file in the original folder described above.

Mismatch list output in the CSV format (MismatchList_YYYYMMDD.csv)

Mismatch List

Date,Time,Different point,,Message,Item,,Code1,Code2,Code3

[1] [2] [3] [4] [5] [6] [7] [8]

(Example) 01/01/2011, 12:00:00, AG-150A/G-50A No.1-1, Group No.1, A group or clutch information has a difference., Difference of the attribute of group,,1,2,0

The table below contains the types of mismatches that may be found in the mismatch list (MismatchList_YYYYMMDD.csv).

*Figures in the brackets indicate items in the mismatch file.

Mismatch (Code)			Mismatch		Remedy
[6] Code1	[7] Code2	[8] Code3	[3] Message [1] Different point (1) [4],[5] Item	[2] Different point (2)	
1			A group or clutch information has a difference.		Refer to the previous table.
	-1	0	AG-150A(EC)/G-50A No. Difference of the number of groups	-	There are discrepancies in the group setting information. Check the "System Configuration Set-up" settings for the group that was found mismatch. If the communication error (Centralized controller) occurs, find the problem and reset the error.
	1	0	AG-150A(EC)/G-50A No Group does not exist	Group No.	
	2	0	AG-150A(EC)/G-50A No Difference of the attribute of group	Group No.	
	3	0	AG-150A(EC)/G-50A No Difference of the group name	Group No.	
	4	0	AG-150A(EC)/G-50A No Difference of the LCD name	Group No.	
	10	0	AG-150A(EC)/G-50A No. Difference of system configuration of indoor unit on group	Group No.	
	20	0	AG-150A(EC)/G-50A No Difference of system configuration of remote controller on group	Group No.	
	30	0	AG-150A(EC)/G-50A No Difference of the connect point of DIDO controller	Group No.	
	40	1	AG-150A(EC)/G-50A No. Checking of configuration of indoor unit and ventilation unit Difference of the number of indoor unit	-	There are discrepancies in the configuration setting information of between indoor unit and ventilation unit. Check the "System Configuration Set-up" settings for the address that was found mismatch. If the communication error (Centralized controller) occurs, find the problem and reset the error.
		2	AG-150A(EC)/G-50A No. Checking of configuration of indoor unit and ventilation unit Indoor unit does not exist	Address	
		3	AG-150A(EC)/G-50A No. Checking of configuration of indoor unit and ventilation unit Difference of the attribute of indoor unit	Address	
		4	AG-150A(EC)/G-50A No. Checking of configuration of indoor unit and ventilation unit Difference of the interlocking ventilation setup on indoor unit	Address	

(Continued from previous page)

Mismatch (Code)			Mismatch		Remedy
[6] Code1	[7] Code2	[8] Code3	[3] Message [1] Different point (1) [4],[5] Item	[2] Different point (2)	
2			Charge system information has a difference.		Refer to the previous table.
	-1	0	AG-150A(EC)/G-50A No. The refrigerant information has not been received.	-	Check to see if the centralized controller has completed its startup process.
	1	1	AG-150A(EC)/G-50A No. Checking of the refrigerant information of indoor unit (AG-150A/G-50A Data) Indoor unit data cannot be acquired	Address	Information about indoor units has not been acquired, or there are discrepancies in the indoor unit information. Check the indoor units (the ones connected to the centralized controller) configuration, and also check the settings for the "System Configuration Set-up."
		2	AG-150A(EC)/G-50A No. Checking of the refrigerant information of indoor unit (AG-150A/G-50A Data) Difference of the attribute of indoor unit	Address	
		3	AG-150A(EC)/G-50A No. Checking of the refrigerant information of indoor unit (AG-150A/G-50A Data) Difference of the address of indoor unit	Address	
	2	1	AG-150A(EC)/G-50A No. Checking of the refrigerant information of outdoor unit Difference of the number of outdoor units	-	Information about outdoor units has not been acquired, or there are discrepancies in the outdoor unit information. Check the outdoor units (the ones connected to the centralized controller) configuration, and also check the settings for the "System Configuration Set-up."
		2	AG-150A(EC)/G-50A No. Checking of the refrigerant information of outdoor unit Outdoor unit data cannot be acquired	Address	
		3	AG-150A(EC)/G-50A No. Checking of the refrigerant information of outdoor unit Difference of the attribute of outdoor unit	Address	
		4	AG-150A(EC)/G-50A No. Checking of the refrigerant information of outdoor unit Difference of the address of outdoor unit	Address	
	3	1	AG-150A(EC)/G-50A No. Checking of the refrigerant information of indoor unit (TG-2000A Data) Indoor unit data cannot be acquired	Address	
		2	AG-150A(EC)/G-50A No. Checking of the refrigerant information of indoor unit (TG-2000A Data) Difference of the attribute of indoor unit	Address	
		3	AG-150A(EC)/G-50A No. Checking of the refrigerant information of indoor unit (TG-2000A Data) Difference of the address of indoor unit	Address	
	11	0	AG-150A(EC)/G-50A No. Difference of the start time of charging	-	There are discrepancies in the charge system settings. Check the settings for the “Charge Set-up.”
	12	0	AG-150A(EC)/G-50A No. Difference of the time of weekly charge's Unit price	-	
	13	0	AG-150A(EC)/G-50A No. Difference of the time of Annual charge's Unit price	-	

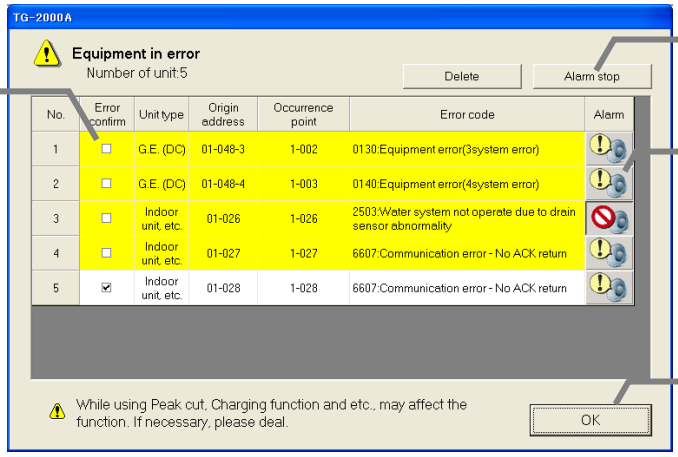
(Continued from previous page)

Mismatch (Code)			Mismatch		Remedy
[6] Code1	[7] Code2	[8] Code3	[3] Message [1] Different point (1) [4],[5] Item	[2] Different point (2)	
3			Operation block information has a difference.		Refer to the previous table.
	-1	0	AG-150A(EC)/G-50A No.	-	There are discrepancies in the operation block settings. Check the group settings for the "Charge Set-up" and the block settings for the "Monitoring Screen Set-up."
			Incorrect of the block or group		
	1	1	AG-150A(EC)/G-50A No.	-	
			Checking of the operation block Difference of the number of groups on operation block		
		2	AG-150A(EC)/G-50A No.	-	
			Checking of the operation block Group information cannot be acquired		
		3	AG-150A(EC)/G-50A No.	-	
			Checking of the operation block Difference of the operation block number of group		
4			Energy-saving information has a difference.		Refer to the previous table.
	1	1	AG-150A(EC)/G-50A No.	-	There are discrepancies in the watt hour meter settings for the energy-save/peak cut control. Check the “Peak Cut WHM setting" under "Energy Saving/Peak Cut Set-up."
			Checking of the energy-saving information of AG-150A/G-50A Difference of the IP address of PLC for measurement meter or AG-150/G-50A		
		2	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the connection port number of PLC for measurement meter		
		3	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the watthour meter number of PLC or the address of PI controller		
	1	4	AG-150A(EC)/G-50A No.	-	There are discrepancies in the energy-save/peak cut control settings. Check the settings for the “Peak cut setting.”
			Checking of the energy-saving information of AG-150A/G-50A Difference of the setting of peak cut control level 1		
		5	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the setting of peak cut control level 2		
		6	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the setting of peak cut control level 3		
		7	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the setting of peak cut control level 4		
		8	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the difference of temperature		
		9	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the equipment for peak cut control judgment		
		10	AG-150A(EC)/G-50A No.	-	
			Checking of the energy-saving information of AG-150A/G-50A Difference of the PI controller's channel for peak cut control judgment		
	2	1	AG-150A(EC)/G-50A No.	Block	There are discrepancies in the indoor units’ energy-save/peak cut control settings. Check the settings for the "Energy saving setting."
			Checking of the energy-saving information of indoor unit Difference of the energy-saving time of indoor unit		
		2	AG-150A(EC)/G-50A No.	Block	
			Checking of the energy-saving information of indoor unit Difference of the energy-saving information of indoor unit		

(Continued from previous page)

Mismatch (Code)			Mismatch		Remedy
[6] Code1	[7] Code2	[8] Code3	[3] Message [1] Different point (1) [4],[5] Item	[2] Different point (2)	
4			Energy-saving information has a difference.		Refer to the previous table.
	3	1	AG-150A(EC)/G-50A No.	Address	There are discrepancies in the outdoor units' energy-save/ peak cut control settings. Check the settings for the "Energy saving setting."
			Checking of the energy-saving information of outdoor unit Difference of the energy-saving time of outdoor unit		
		2	AG-150A(EC)/G-50A No.	Address	
			Checking of the energy-saving information of outdoor unit Difference of the energy-saving information of outdoor unit		
5			Energy monitoring system information has a difference.		Refer to the previous table.
	1	1	PLC No.	Meter No.	There are discrepancies between the settings for the charge system and for the Electric Amount Count PLC. Check the settings for the "Measurement Meter Set-up" and "Charge Set-up."
			Checking of the charge system information Difference of pulse unit		
		2	PLC No.	-	
			Checking of the charge system information Difference of energy monitoring time zone		
		3	PLC No.	-	
			Checking of the charge system information Difference of weekly unit price		
		4	PLC No.	-	
			Checking of the charge system information Difference of annual unit price		

(4) Display of equipments in error.


TG-2000A
Equipment in error
Number of unit:5
Delete
Alarm stop
No.
Error confirm
Unit type
Origin address
Occurrence point
Error code
Alarm
1 G.E. (DC) 01-048-3 1-002 0130:Equipment error(3system error)
2 G.E. (DC) 01-048-4 1-003 0140:Equipment error(4system error)
3 Indoor unit, etc. 01-026 1-026 2503:Water system not operate due to drain sensor abnormality
4 Indoor unit, etc. 01-027 1-027 6607:Communication error - No ACK return
5 Indoor unit, etc. 01-028 1-028 6607:Communication error - No ACK return
While using Peak cut, Charging function and etc., may affect the function. If necessary, please deal.
OK

Error confirm button
Error can be confirmed with check the checkbox. New error is colored with yellow.

Alarm stop button
The alarm can be stopped with this button.

Warning tone ON/OFF button
Warning tone is enabled or disabled with this button.

OK button
This screen can be closed with this button.

Setting conditions:
When "Warning at the time of error" in the User setting is set to "Beep, pop-up" or "Wav file playback, pop-up"
Target:
Same as 8.5.1
Condition for occurrence:
Look at the display when abnormality occurs on the 8.5.1
Remedy:
Check the setting code or connection status.
Remark:
Selected "warning tone" from the user setting will be played at the same time with display appears.

Note:

- If “Deactivate” is selected on the “User Setting 3” screen, the warning message will not appear, nor the warning sound will be played.
- If another error occurs in another system after “OK” is clicked, another error message will appear and the warning sound will play again.
  (System: Centralized controller, Air-conditioner, WHM, PLC for general equipment, General equipment)
- Be aware of that when the volume is set to mute on Windows (OS), alarm does not beep.
- The “Equipments in error” function (pop-up error message) does not handle the upper/lower limit warning for the AI controller (Measurement of temperature or humidity).

[Operation Method]

<u>To stop the warning tone</u>

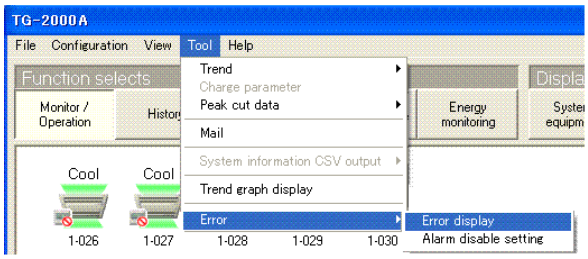
- Click the “stop warning tone” or “OK”.

<u>To discriminate of the history</u>

- Check the check box of error confirmation. The checked history will be displayed white at the next time.

<u>Stopping the error tone of arbitrary error code</u>

- Click the arbitrary error unit on the error tone field.



<u>To delete the history</u>

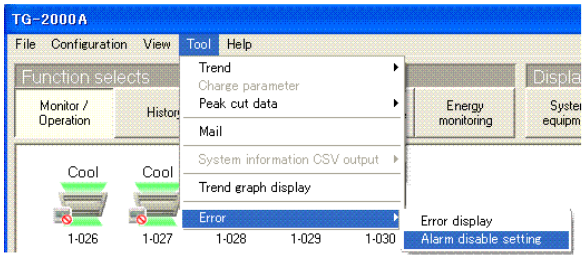
- Click the arbitrary history and [delete] button.

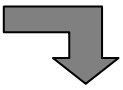
<u>To display recall by manual operation</u>

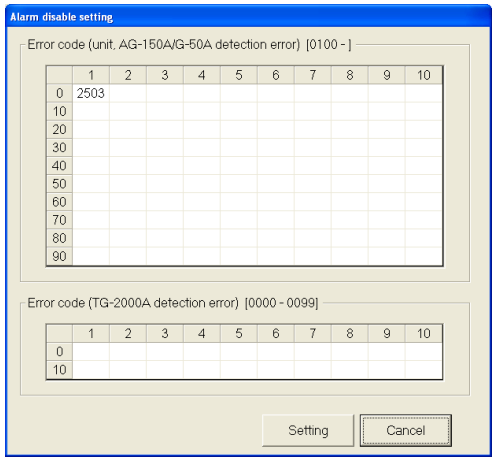
Pull down tool menu, select [error] and click [error display], then equipment in error will be displayed

<u>To set up with or without warning tone from error code</u>

Pull down tool menu, select [error] and click [alarm disable setting], then the screen of setting alarm disable will be displayed.







Setting the detection error of unit and Centralized controller.

- Enter the arbitrary error code (no less than 0100) into a blank mass at unit, Centralized controller detection error.
- When it is completed, click the setting button.

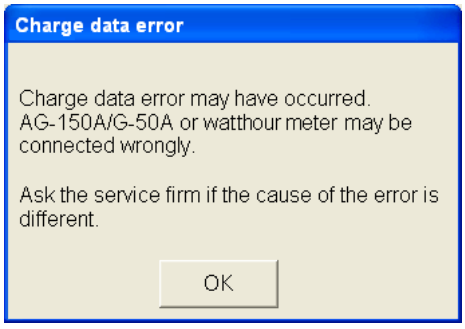
Setting the detection error of TG-2000A.

- Enter the arbitrary error code(within 0000～0099) into a blank mass at TG-2000A detection error.
- When it is completed, click the setting button.

Note:

- The error code setting with this function is automatically reflected to the screen of the equipments in error.
- The setting description of the screen of the equipments in error, also automatically reflect to the screen of setting alarm disable.
- The entered error code will be sorted automatically.
  Detection errors are able to enter maximum 100 on unit and Centralized controller, and maximum 20 on TG-2000A.

(5) Message: “Charge data error may have occurred.”


Charge data error
Charge data error may have occurred.
AG-150A/G-50A or watthour meter may be connected wrongly.
Ask the service firm if the cause of the error is different.
OK

Setting Conditions: When the charge function is used.

Target:

The air conditioners operation amount data or the electric amount data that are collected by the TG-2000A.

Conditions for occurrence:

At least one air conditioning unit operation amount data or one electric amount data remains in error for three consecutive days.

Remedy:

Check to see if TG-2000A, Centralized controller, PLC and RS-485 are communicating normally. Contact the service provider if unable to identify the problem cause.

Remarks:

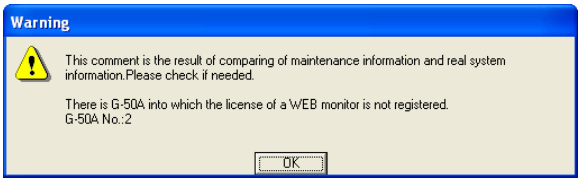
The error message will disappear when the performance data is correctly received from the centralized controller, PLC and RS-485.

The charge will be calculated correctly and carried over to the next period.

Note:

- The warning message will automatically appear at specific times (at 7:15 on Ver. 6.38 or later, and sometime between 4:00 and 5:00 on the units before Ver. 6.38). The message will also appear when the “operation amount data” or “electric amount data” were manually acquired.

(6) Message: “There is G-50A into which the license of a WEB monitor is not registered.”


Warning
This comment is the result of comparing of maintenance information and real system information.Please check if needed.
There is G-50A into which the license of a WEB monitor is not registered.
G-50A No.:2
OK

Setting Conditions: Normal

Target:

Control screen

Conditions for occurrence:

The license of a Web Monitor is not registered or XML communication is prohibited.

Remedy:

Register the license of a Web Monitor into all G-50A.

Remarks:

This message appears when the lisence is not activated. Check the license status. If the license is not activated, register thelicense to enable monitoring/operation.

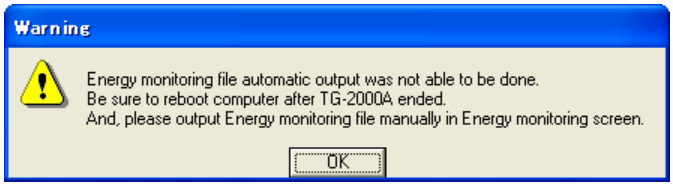
Note:

- When Centralized controller does not have the licence of Web Monitor, the following message appears.

"AG-150A/G-50A of the abnormalities in communication exists."

(7) Message: "Energy monitoring file automatic output was not able to be done."

(The display of this message is supported on Ver. 6.38 or later.)


Warning
Energy monitoring file automatic output was not able to be done.
Be sure to reboot computer after TG-2000A ended.
And, please output Energy monitoring file manually in Energy monitoring screen.
OK

Settings:

Energy monitoring automatic output is set to Exporting file or Printing and exporting file.

Target:

Energy monitoring automatic output file

Occurrence conditions:

Energy monitoring file was not automatically output.

Solution:

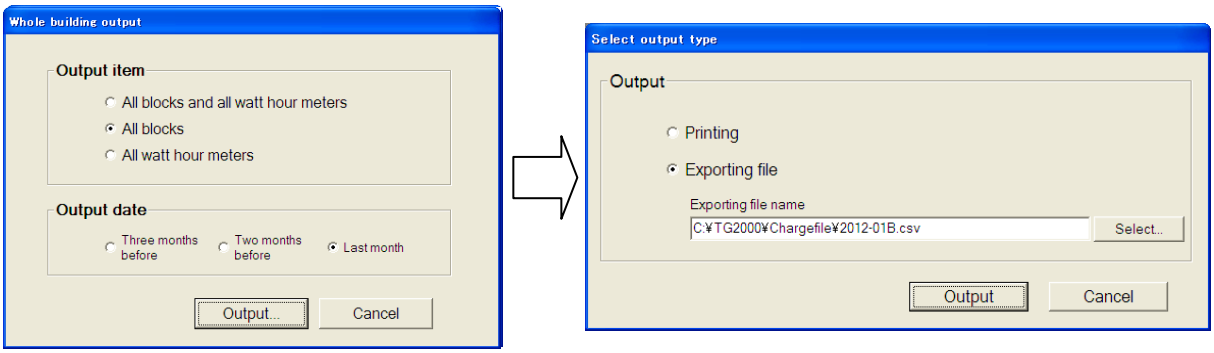
Turn off the TG-2000A, and reboot the PC.

Then click the [Whole building output] button on the Energy monitoring screen of the TG-2000A to output the air conditioning charges for the previous month.

Output item: All blocks
Output month: Last month
Output: Exporting file
File name: "Exporting folder name"¥MM-YYYYB.csv
(If the Exporting folder name is C:¥TG2000¥Chargefile and the output month is January 2012, the file name will be C:¥TG2000¥Chargefile¥01-2012B.csv)

When calculating charges for a system with WHM, meter readings will also be output.

Output item: All watt hour meters
Output month: Last month
Output: Exporting file
File name: "Exporting folder name"¥MM-YYYYW.csv
(If the Exporting folder name is C:¥TG2000¥Chargefile and the output month is January 2012, the file name will be C:¥TG2000¥Chargefile¥01-2012W.csv)



Note: If taking the procedures above does not solve the problem, contact your service provider.

(8) Miscellaneous

The following error is stored only in the error history.

Error	Remedy
PLC Power failure	Check to see if the power to the PLC was not cut off on the previous day.

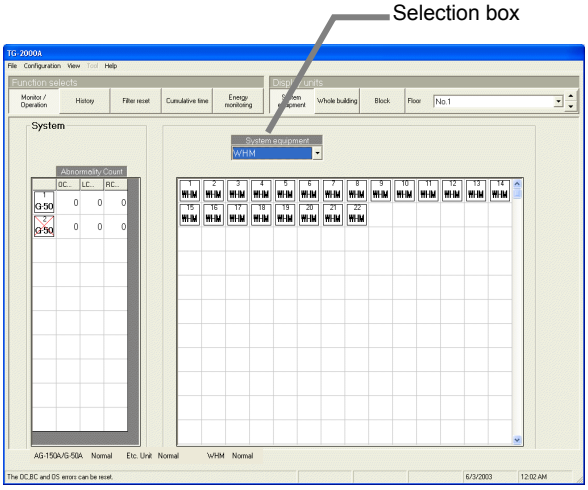
8.6 Meter Status Monitor

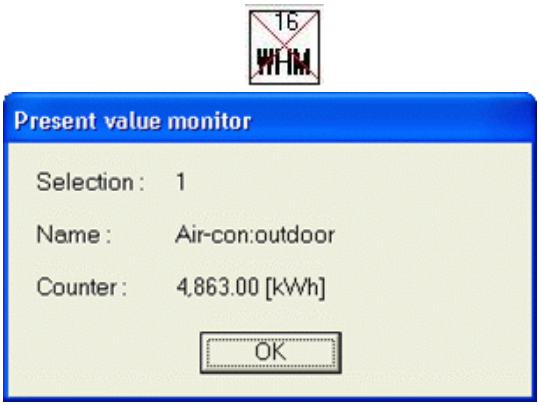
The meter integrated value monitor and monitor abnormal/normal status can be checked.

Meter integrated value monitoring method

[Procedure]

1) Select [Monitor/Operation].
   When the [Monitor/Operation] button of the function selection buttons is selected, the monitor/operation screen is displayed.
2) Select the system equipment.
   When the [System equipment] button of the display units buttons is selected, the equipment screen is displayed.
3) Select WHM from the selection field.
   Select [WHM] from the centralized controller and WHM selection field. All the WHM are displayed.
   When a WHM integrated value monitor is abnormal, the "×" is displayed at that WHM.
   * The gas, water and calorific value meter are also displayed with the "WHM" icon.
4) Select the meter to be monitored.
   Click the meter, the meter integrated value is displayed.
   When there is a monitor error, an error message is displayed.





Note:

- Meter integrated value monitoring (for PLC) is performed periodically. There may be a time lag of from 10 seconds to 1 minute from the time integrated value display was selected.
- On the present value of Measuring meter connected with PI controller (MCP), there may be a time difference. (Maximum about one minute)
- The abnormality history of each meter can be displayed by selecting [History] at the function selection buttons.
- When meter is not connected, this function cannot be used.

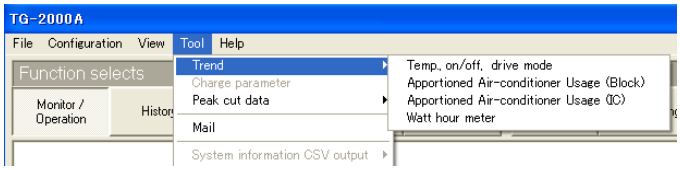
8.7 Trend Data Output

If the trend function is valid, the set temperature, intake temperature, WHM and apportioned electric amount trend data can be output in the CSV format.

Outputting the trend data

[Procedure]

1) Select [Trend] from the [Tool] menu.
   Select [Tool] and [Trend] from the Management screen's menu.
2) Select the trend item.
   The Trend output screen opens when the item is selected.



Item	Details
Temp., on/off, drive mode	Trend data for group set temperature, intake temperature, on/off, mode and error status The time interval that was set in section “Trend setting” (explained in “User Set-up” under “System setting”) is effective for today’s data. The interval options are 2, 5, 10, 15, 30, and 60 minutes. (For 10-minute interval, output takes place at 00 minutes, 10 minutes and so forth every hour.) The one-hour interval (00 minutes every hour) data is output for the previous day to 31 days prior. * The indoor unit with the minimum address is the main unit in the group. If “Include ventilation” on “User Set-up” is enabled, Lossnay groups will also be included in the “Trend” data. (applicable to TG-2000A Ver. 6.38 or later). Not applicable to General equipment group. * When connecting indoor units that support the dual set point function, enable “Output dual set point mode” under “User Set-up.”
Apportioned Air-conditioner Usage (Block)	Trend data for the charging block's apportioned air-conditioner usage This menu is available only when the charge function is used and a watt hour meter is connected. The data for 122 days up to yesterday will be output. (The data can be output when the charge function is used.)
Apportioned Air-conditioner Usage (IC)	Trend data of apportioned air-conditioner usage for each indoor unit This menu is available only when the charge function is used and a watt hour meter is connected. The data for 122 days up to yesterday will be output.
Watt hour meter	Trend data for watt hour meter (meter) cumulative electric amount This menu is available only when a watt hour meter is connected. The data for 31 days up to today will be output. The time interval that was set in section “Trend setting” (explained in “User Set-up” under “System setting”) is effective. The interval options are 5, 10, 15, 30, and 60 minutes.
Temperature/humidity	Trend data for temperature/humidity of AI controller (MCT) Data is output for the period from 30 days ago up to and including yesterday. If an AE-200/AE-50/EB-50 is connected, data is output at 30-minute intervals. If an AG-150A/GB-50ADA/G-50 is connected, data is output at 1-, 2- or 5-minute intervals, as selected in the "AI controller setting" in "DIDO, AI, and PI controller set-up" in "System set-up". * Regardless of whether 4:40 or 0:20 was selected as the output time for "Trend" in "User set-up", the AI controller trend data is output at 4:40.

3) Select the various items.

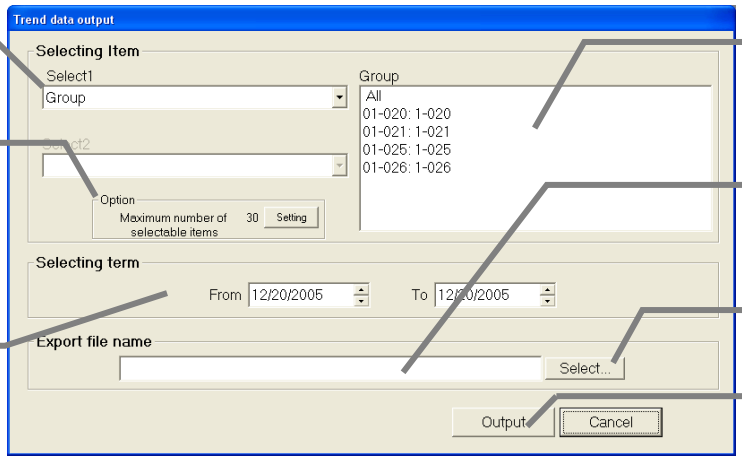
Select or set the target to be output, the date (term), file export destination and file name.

The trend data output of Temp. on/off, drive mode

Selecting item
Select the target for outputting the trend data.

Option
The maximum number of selectable items can be changed to the same number set on the previous version.

Selecting term
Select the dates for outputting the data.



Output target selection
Reduce the number of the output target selection if an error message appears.

Export file name
Set the name of the folder and file to be output.

Select button
The folders to be output can be browsed.

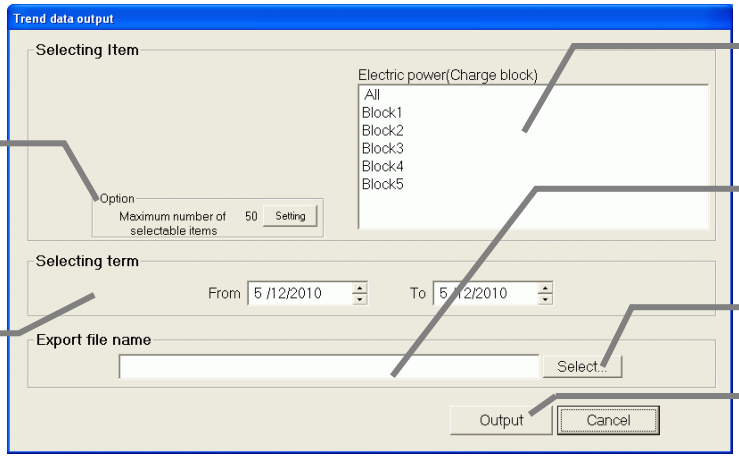
Output button
The file is output when clicked.

Trend data output screen (Temp., on/off, drive mode)

The trend data output of Apportioned Air-conditioner Usage (Block)

Option
The maximum number of selectable items can be changed to the same number set on the previous version.

Selecting term
Select the dates for outputting the data.



Output target selection
Reduce the number of the output target selection if an error message appears.

Export file name
Set the name of the folder and file to be output.

Select button
The folders to be output can be browsed.

Output button
The file is output when clicked.

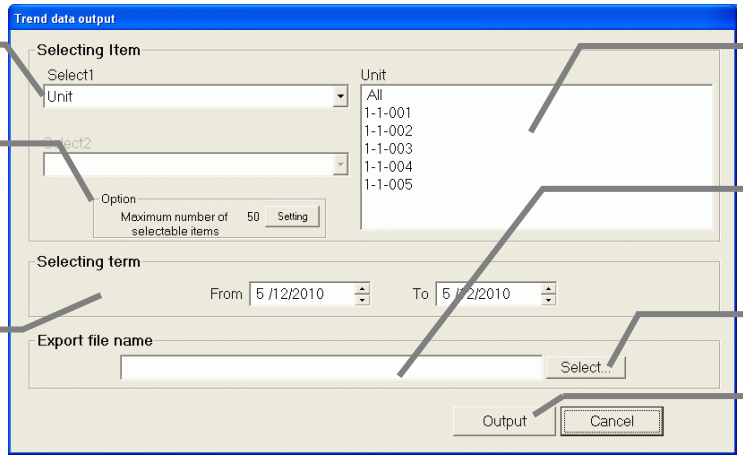
Trend data output screen (Apportioned Air-conditioner Usage (Block))

The trend data output of Apportioned Air-conditioner Usage (IC)

Selecting item
Select the target for outputting the trend data.

Option
The maximum number of selectable items can be changed to the same number set on the previous version.

Selecting term
Select the dates for outputting the data.



Output target selection
Reduce the number of the output target selection if an error message appears.

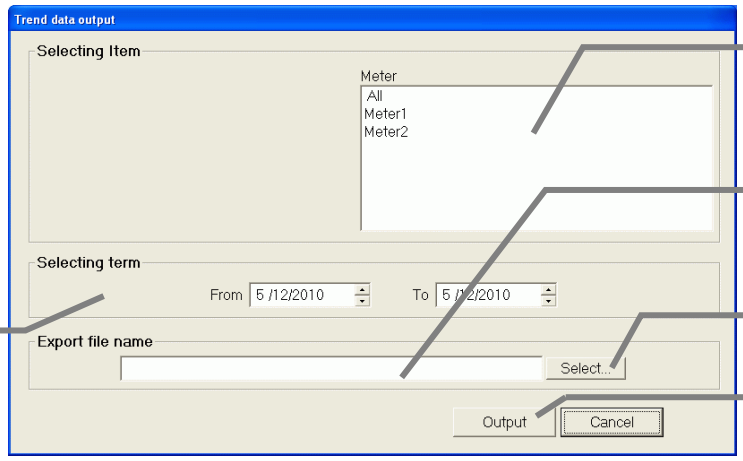
Export file name
Set the name of the folder and file to be output.

Select button
The folders to be output can be browsed.

Output button
The file is output when clicked.

Trend data output screen (Apportioned Air-conditioner Usage (IC))

The trend data output of Watt hour meter



Output target selection
Reduce the number of the output target selection if an error message appears.

Export file name
Set the name of the folder and file to be output.

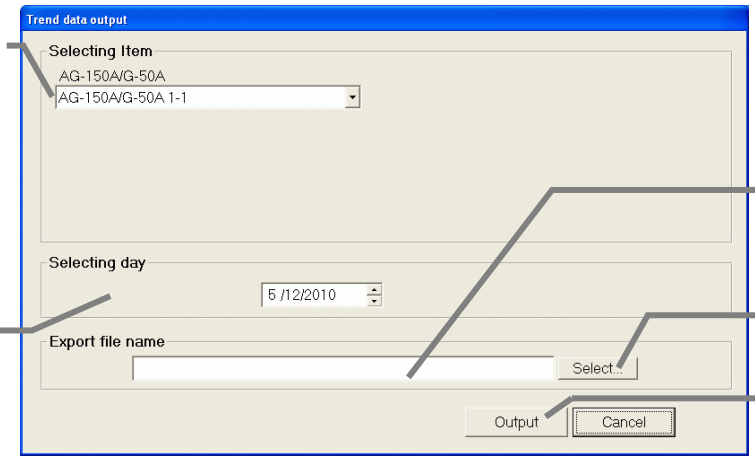
Select button
The folders to be output can be browsed.

Output button
The file is output when clicked.

Selecting term
Select the dates for outputting the data.

Trend data output screen (Watt hour mater)

The trend data output of Temperature/humidity



Selecting item
Select the target for outputting the trend data. (Centralized controller No.)

Export file name
Set the name of the folder and file to be output.

Select button
The folders to be output can be browsed.

Output button
The file is output when clicked.

Selecting term
Select the dates for outputting the data.

Trend data output screen (Temperature/humidity)

4) Select the [Output] button.

After selecting each item, click the [Output] button. The message "Please wait" appears while the data is being output. This screen automatically closes when the output is completed.

Note:

- Data in the following terms can be output with this trend output screen. If an unsupported date is selected, a file with no trend data outputs.
  "Temp., on/off, drive mode", "Watt hour meter", "Temperature/humidity": Data for last 31 days
  "Apportioned electric amount (block) / (indoor unit)": Data for last 122 days
- The "Temperature", "Watt hour meter" and "Temperature/humidity" automatic output items are output to the automatic trend output folder once a day, and is saved for two years.
  The output time interval that was set in section “Trend Setting” (explained in section “User Set-up”) or “AI controller set-up” (explained in section “System Set-up”) is effective.
- When a communication error (Centralized controller) is detected, [-99.9] will appear in the “Temp.” area of “Temp., on/off, drive mode", and [-99] will appear in the "Watt hour meter" area.
  [-99.9] will appear in the “set temp” and “room temp” display areas of the Lossnay groups.
  When the electric amount is 0 even though an air-conditioning unit has been operated, [-99] will appear in the “Apportioned electric amount (block) / (indoor unit)" area.
  Any data failed to be obtained will appear blank in “Temperature/humidity” output data.
- When this function is used, please keep TG-2000A turned on. (Except when rebooting the unit to ensure liability)
  The trend is uncollectible unless TG-2000A is operating.

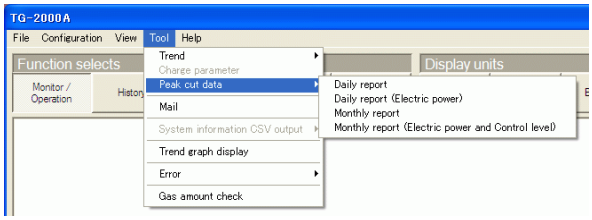
8.8 Peak Cut Status History Data Output

If the peak cut function is valid, the peak cut control status, and the history data including the 30-minute unit electric amount and one-day unit working electric amount can be output in the CSV format.

Outputting the peak cut status history data

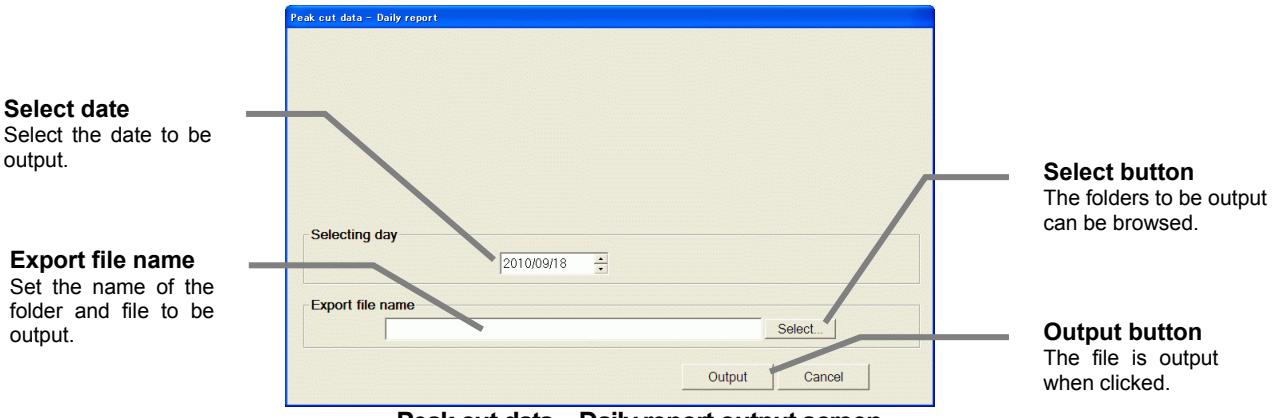
1) Select [Peak cut data] from the [Tool] menu.
Select [Tool] and [Peak cut data] from the Management screen's menu.

2) Select the [Daily report], [Daily report (Electric power)], [Monthly report], [Monthly report (Electric power and Control level)] or [Monthly report (Control level)] item.
The Trend output screen opens when the item is selected.

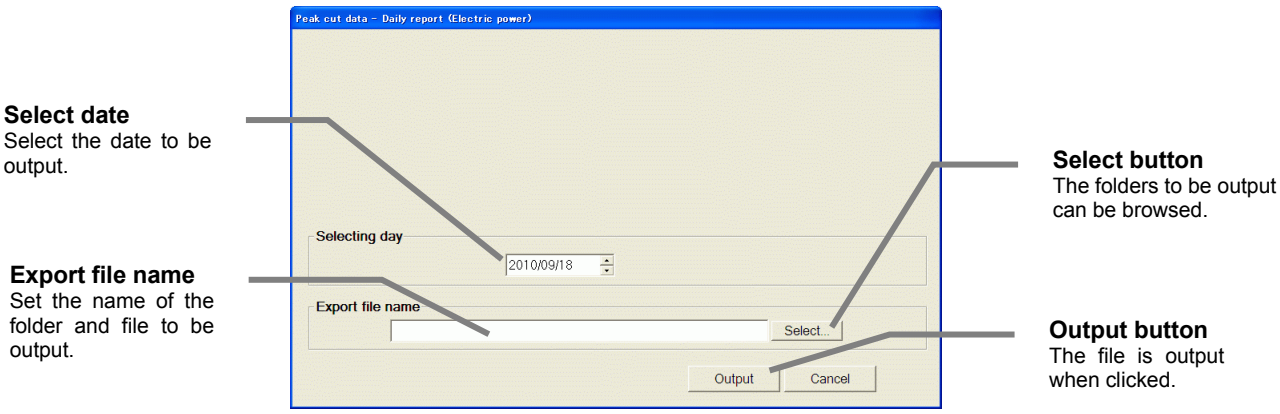


Item	Details
Daily report	History data of one-minute-interval control level and 30-minute-interval electric amount (Daily output) When Peak cut is controlled by using the external input or PLC, only the history data of control level can be output.
Daily report (Electric power)	History data of one-minute-interval control level and 30-minute-interval average electric power (Daily output) This item can be set only when Peak cut is controlled by using WHM.
Monthly report	History data of daily electric amount per WHM (Monthly output) This item can be set only when Peak cut is controlled by using WHM.
Monthly report (Electric power and Control level)	History data of daily electric amount, the maximum and minimum electric power, the maximum and minimum control level, and the time period in which the maximum electric power was detected (Monthly output) This item can be set only when Peak cut is controlled by using WHM.
Monthly report (Control level)	History data of daily maximum and minimum control level (Monthly output) This item can be set only when Peak cut is controlled by using the external input or PLC.

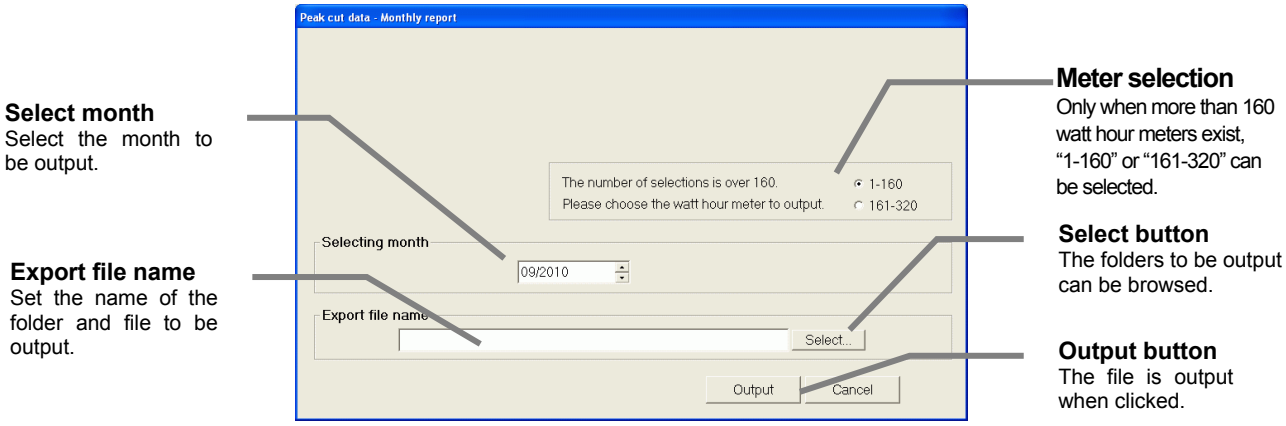
3) Select the various items.
Select or set the dates (or month) to be output, file export destination and file name.



Peak cut data – Daily report output screen



Peak cut data – Daily report (Electric power) output screen



Select month
Select the month to be output.

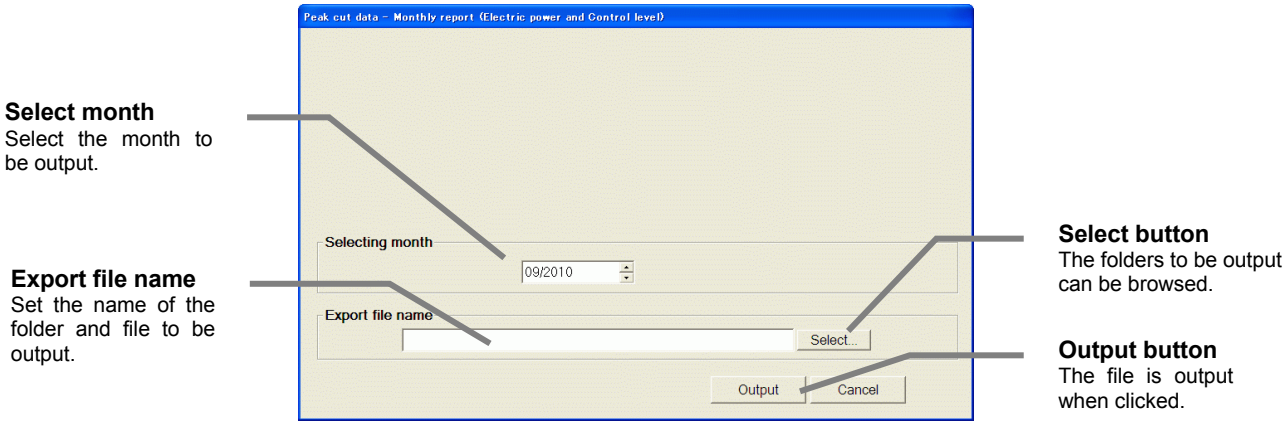
Export file name
Set the name of the folder and file to be output.

Meter selection
Only when more than 160 watt hour meters exist, "1-160" or "161-320" can be selected.

Select button
The folders to be output can be browsed.

Output button
The file is output when clicked.

Peak cut data – Monthly report output screen



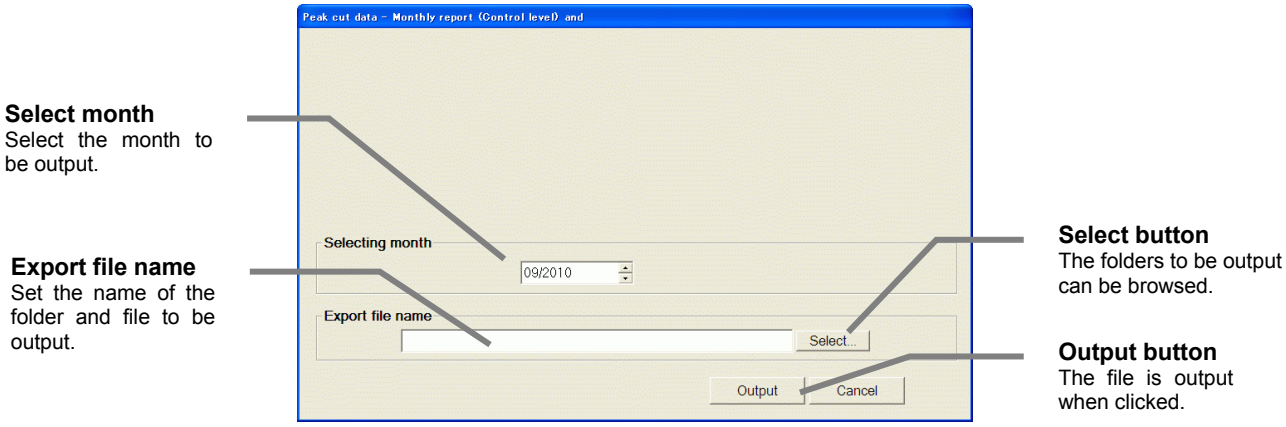
Select month
Select the month to be output.

Export file name
Set the name of the folder and file to be output.

Select button
The folders to be output can be browsed.

Output button
The file is output when clicked.

Peak cut data – Monthly report (Electric power and Control level) output screen



Select month
Select the month to be output.

Export file name
Set the name of the folder and file to be output.

Select button
The folders to be output can be browsed.

Output button
The file is output when clicked.

Peak cut data – Monthly report (Control level) output screen

4) Select the [Output] button.

After selecting each item, click the [Output] button. The message "Please wait" appears while the data is being output. This screen automatically closes when the output is completed.

Note:

- Data in the following terms can be output with this trend output screen. If an unsupported date is selected, a file with no trend data outputs.
  - "Daily report" : Data for last 62 days
  - "Daily report (Electric power)" : Data for last 62 days
  - "Monthly report" : Data for last 62 days
  - "Monthly report (Electric power and Control level)" : Data for last 62 days
  - "Monthly report (Control level)" : Data for last 62 days
- These items are saved for two years in the automatic trend output folder.
- When more than 160 watt hour meters exist, the Monthly report data cannot be output in one file. In this case, create two different files by outputting the data separately.
- When a daily report is used, please keep TG-2000A turned on.
  When the function of an automatic output is used, please keep TG-2000A turned on.

8.9 Checking of the gas amount

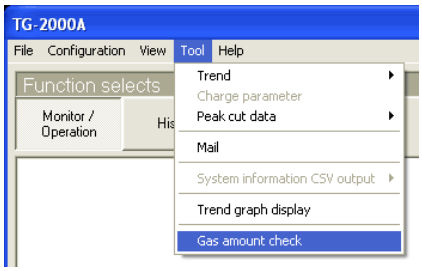
Use this function to check for refrigerant leak from the outdoor unit.

Note:

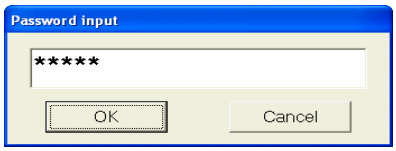
- The "Gas amount check" function can only be used for the outdoor units that are connected to an AG-150A/GB-50ADA and only on the outdoor units that support the function.
  *Refer to the outdoor unit specifications to find out if a given unit supports the "Gas amount check" function.
- During a "Gas amount check," air conditioning units will operate in the check mode. This check will take between 30 minutes and 1 hour.

Checking the refrigerant amount in the outdoor units

1) Select [Gas amount check] from the [Tool] menu.
Select [Tool] and [Gas amount check] from the Management screen's menu.



A window to enter the password will appear.
Enter Initialization password to bring up the "Gas amount check" window.
The refrigerant amount calculated based on the latest refrigerant check will be displayed.
*If the latest refrigerant amount information cannot be obtained, the results of the previous check will be displayed.



2) Select the outdoor unit whose refrigerant charge is to be checked.
Select the AG-150A (EC) from AG-150A No., and select the outdoor units to be checked.
☐: Unselected
■: Selected
Press the [Check Start] button to start a check on the selected outdoor units.
The results of the check will appear in the "Check result."
*"Gas amount check" is performed on the selected units that are connected to the AG-150A (EC) selected in the "AG-150A No." field.
*The results of a "Gas amount check" will not be automatically updated. To update the results, press the [All monitors] button.

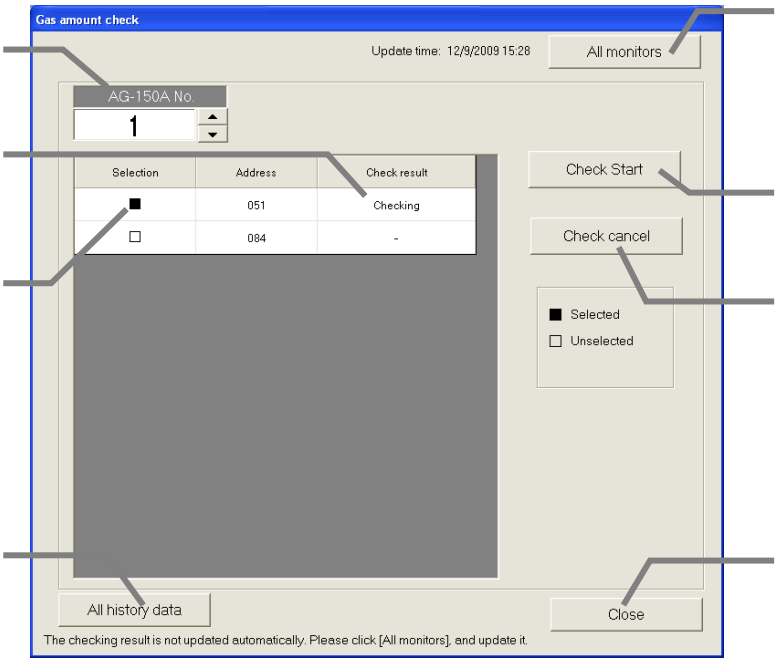
To cancel the check on certain outdoor units, select the units and press the [Check cancel] button.

AG-150A No.
Select an AG-150A (EC) No. here.

Check result
The progress status and the results of test will appear here.

Select button
Use the buttons in this column to select the outdoor units to perform a refrigerant amount check on, or to stop the check that is being performed on the selected units.

All history data button
Press to bring up the refrigerant check results history.



All monitors button
Press to have the result of the refrigerant amount check displayed on the screen.

Check start button
Press to start a check on the selected outdoor units.

Check cancel button
Press to stop the check on the selected outdoor units.

Close button
Press to exit the "Gas amount check" window.

Gas amount check screen

3) View the “Gas amount check history” window.

Press the [All history data] button on the “Gas amount check” window to view the “Gas amount check history” window.

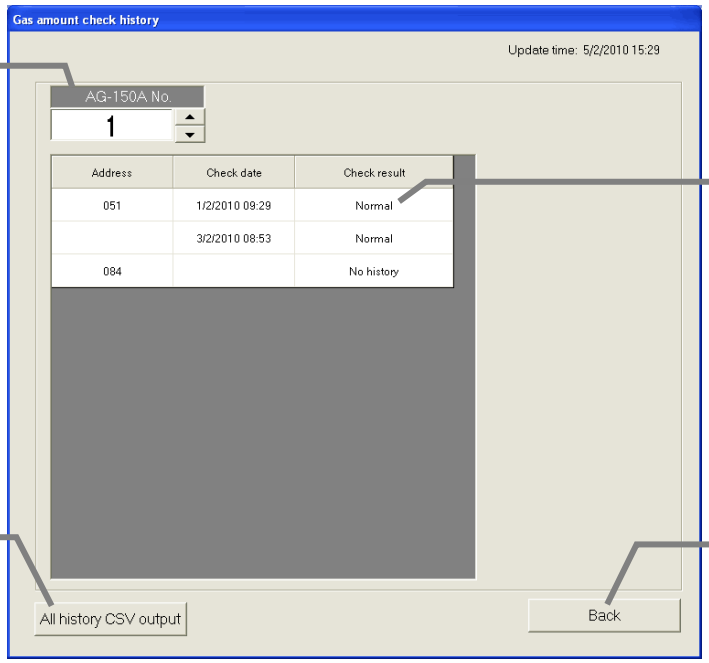
On this window, the history of check results will appear. (Maximum 10)

*When the latest history cannot be obtained, the results of the previous check will appear.

Press the [All history CSV output] button to output the check results history in a CSV file. A window will appear prompting you to select the output destination.

*The CSV output file will contain the check results on the outdoor units connected to all AG-150A (EC).

AG-150A No.
Select an AG-150A (EC) No. here.



Check result
Check result history will appear here.

All history CSV output button
Press to output the check results in a CSV file.

Back button
Press to return to the “Gas amount check” window.

Gas amount check history screen

Press the [Back] button to return to the “Gas amount check” window.

4) Exit the “Gas amount check” window.

Press the [Close] button to exit the “Gas amount check” window.

Note:

- The “Gas amount check” window does not need to remain open throughout checking.
  The checking progress status or the check results will appear when the window is reopened.
- Only the checks performed via TG-2000A or AG-150A will appear in the “Gas amount check” and the “Gas amount check history” windows.
- When the results of the latest check performed or the check history cannot be obtained (e.g., due to AG-150A communication error), the results of the previous check will be displayed. In this case, the “Update time” will appear in red.

9. Air-Conditioning Energy Monitor

9.1 Charge Display Function

When the [Energy monitoring] button at the top left-hand side of the Management screen is clicked, this screen opens.

There are two types of monitoring screens: With WHM connection and Without WHM connection.

Without WHM connection : 2 displays for the outdoor and indoor units
… Proportionally divided power charge (manual input of the electric amount)

With WHM connection : 2 displays for charging block and WHM
… Proportionally divided power charge (Except manual input of the electric amount)

Note:

- This function cannot be used if the "Use charge function" is not selected by user setting. (The [Energy monitoring] button is not displayed either.)
- The various operations in this function will differ as explained below depending on whether "always connected to AG-150A/G50A system" or "connect when needed" is selected with the user settings. When using the direct read in of power value into computer function (RS-485 WHM), "connect when needed" cannot be selected, so use "always connected to AG-150A/G50A system".

  When "always connected to AG-150A/G50A system" is selected <recommended mode>

  The data is collected from the centralized controller and PLC (or PI controller) and the apportionment is calculated once a day, and the previous month is automatically settled on the day following the settlement day. Thus, the TG-2000A must be connected and run 24 hours.

  When "connect when needed" is selected

  The data is collected from the centralized controller and PLC (or PI controller), the apportionment is calculated, and the last month is settled at once when the TG-2000A is started up on the day after the settlement day. The last month's data can be collected and calculated manually by clicking the "Last month calc" button on the Air-conditioning charge screen. TG-2000A needs to be run only when necessary.

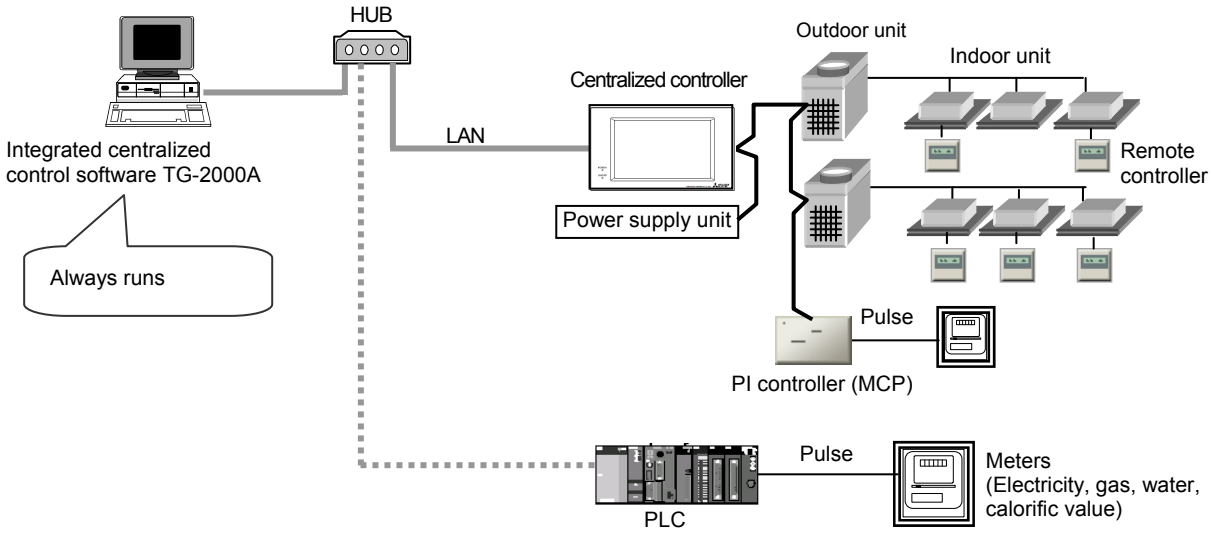
  Note: Errors in the centralized controller and PLC (or PI controller) cannot be detected unless the TG-2000A is running. The data required for calculating the charges cannot be collected unless the centralized controller and PLC (or PI controller) are running correctly. Periodically confirm that these are running correctly.
- When the "Proportionally divided power charge" license number is not registered to the centralized controller, the air-conditioning charge function will not function properly.
- The Without WHM connection (manual input of the electric amount) air-conditioning charge (charge ratio) is temporarily calculated from the indoor unit capacity, parameters used, and charge unit cost, or it is the ratio found for each block. Since the electric amount used or charge is required separately, it cannot be used as it is.

  Proportional division parameter : Calculated from the capacity of each indoor unit and the parameter used.

  Charge ratio : Ratio of value (given by multiplying the proportional division parameter by the unit cost) calculated for all the blocks
- When various items are not set during initial screen charge (system) setting, charges cannot be calculated normally.
- "Date specification" and "Whole term day specification" does not include the standard charge.
- Charges for the "Date specification", "Whole term day specification" and “Recalculation" functions are calculated and output using the unit price set at the time they operate.

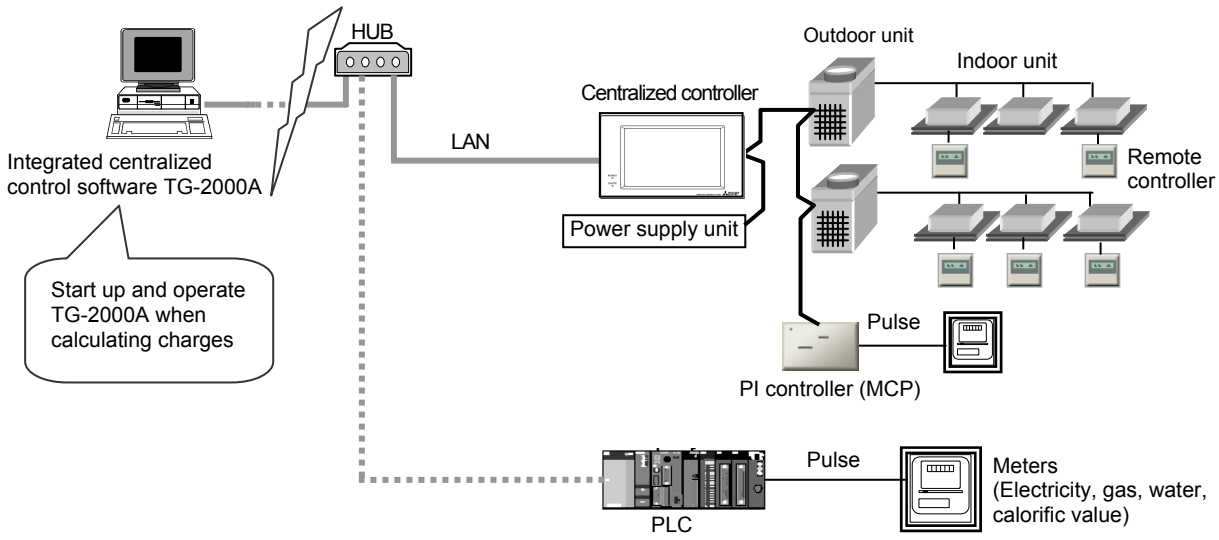
*For the charge system setting, refer to Site adjustment manual section "8.14 Energy Monitoring Set-up".

[Image of setup in always connected to AG-150A/G-50A system state] **<recommended mode>**



(Either PLC or PI controller (MCP) can be connected to the meters.)

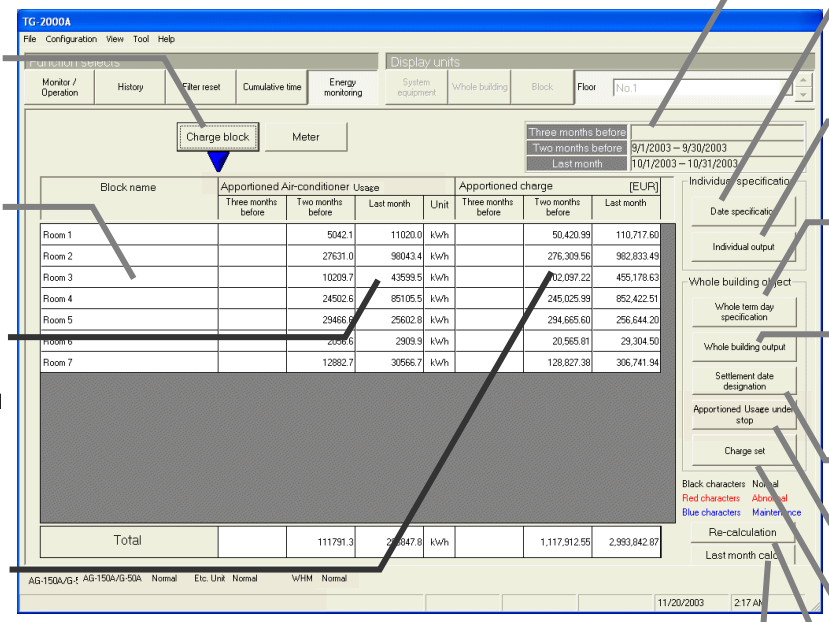
[Image of setup without constant connection (connect when needed)]



(Either PLC or PI controller (MCP) can be connected to the meters.)

Function table

[With WHM connection]



Charge block/Meter buttons
Select the charge block display or meter display.

Block name/meter display
Display the charge block name or meter name.

Apportioned air-conditioner usage display
Display the apportioned air-conditioner Usage for the block or meter. Display up to the first place after the decimal point.

Air-conditioning charge display
Display the air-conditioning charges for the block or meter.

Settlement term display
Display the settlement term.

Individual output button
Output the settlement results in block or meter units.

Date specification button
Designate the term and calculates.

Whole term day specification button
Designate the term and calculates.

Whole building output button
Output the settlement results for the whole building.

Settlement date designation button
Set the settlement date.

Apportioned Usage under stop button
Display the apportioned usage when stopped.

Charge set button
Set the charges, etc.

Recalculation button
Recalculate the settlement term.

Last month calc. button
Collect and calculate the last month's data.

Air-conditioning energy monitoring screen (For block)

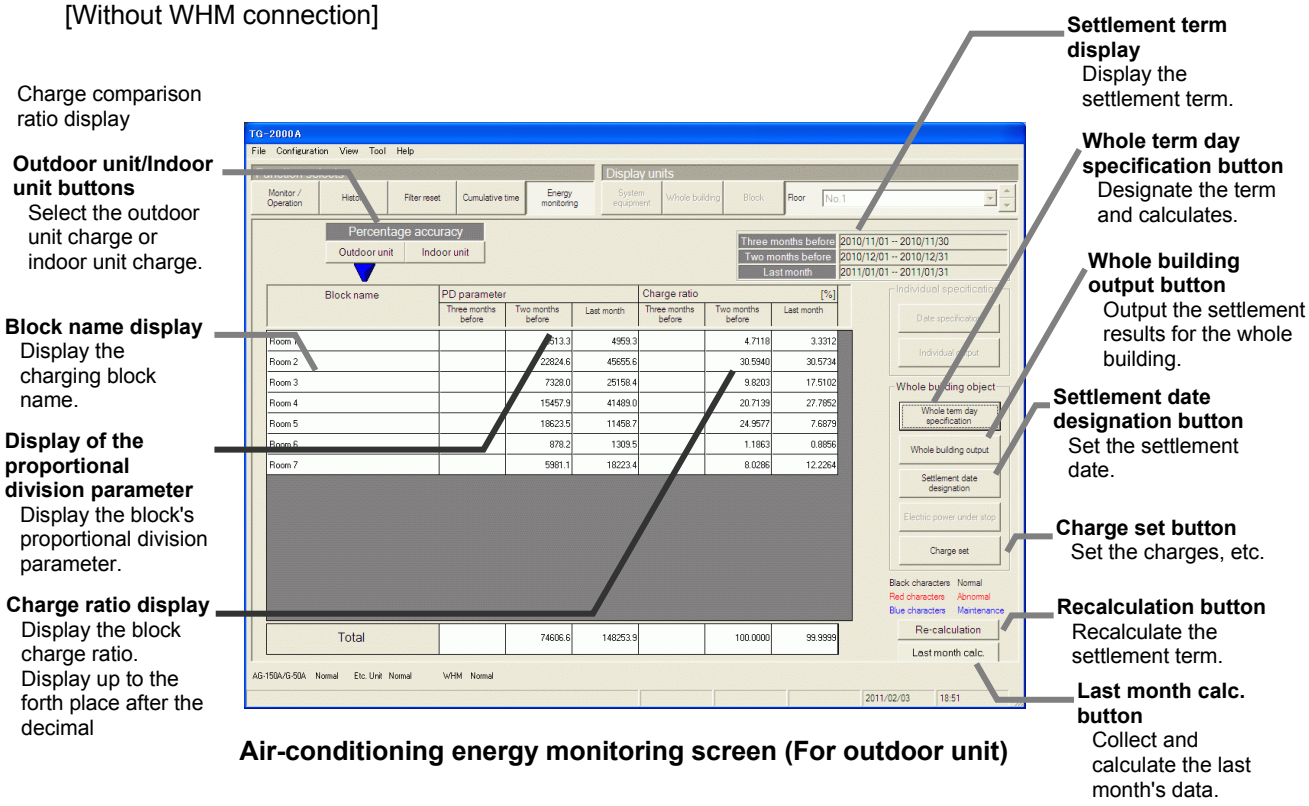
[Description of displays and buttons]

Item	Details
Block name display	Display the block units air-conditioning charges for up to three preceding months.
Meter display	Display the watt hour units air-conditioning charge for up to three preceding months.
Apportioned air-conditioner usage display	Display the Apportioned air-conditioner usage for each unit.
Air-conditioning charge display	Display the monthly air-conditioning charge: (electric use unit price + standard charge) for each unit.
Individual specification	Specify an individual object and calculates and outputs the air-conditioning charge.
1) Date specification (*1)	Specify the date and calculates and outputs the air-conditioning charge for the selected block or watt hour meter.
2) Individual output (*2)	Calculate and outputs the air-conditioning charge for the selected block or watt hour meter.
Whole building object	Set, calculates and outputs the air-conditioning charge for the whole building.
1) Whole term day specification (*1)	Specify the term day and calculates and outputs the air-conditioning charge for all blocks, or all watt hour meters.
2) Whole building output (*2)	Specify the term day and calculates and outputs the air-conditioning charge for all blocks and all watt hour meters.
3) Settlement date designation	Specify the air-conditioning charge settlement date.
4) Apportioned Usage stop	Display and outputs the apportioned usage under stop.
5) Charge set	Call the Air-conditioning energy monitoring basic set screen.
Recalculation	Using the unit price of the current, recalculate the air-conditioning charges.
Last month calc.	Calculate the last month (collects and calculates data). (Only when "connect when needed" is selected.)

(*1) The air-conditioning charge is calculated and output using the unit price currently set.

(*2) The air-conditioning charges already calculated are output. The calculation is carried out on the day after the calculation date and the results are stored. If the unit price changes, the change is not applied to charges calculated prior to the change. The changed unit price applies as of the calculations made after the change.

[Without WHM connection]



Air-conditioning energy monitoring screen (For outdoor unit)

[Description of displays and buttons]

Item	Details
Outdoor unit	Display the block units air-conditioning charges (proportional division parameter, charge ratio) of the outdoor unit for up to three preceding months.
Indoor unit	Display the block units air-conditioning charges (proportional division parameter, charge ratio) of the indoor unit for up to three preceding months.
Proportional division parameter display	Display the block units proportional division parameters.
Charge ratio display	Display the charge ratio of the block units air-conditioning charges.
Total display	Display the monthly total of the proportional division parameter and charge ratio.
Whole building object	Set, calculate and output the air-conditioning charge for the whole building (all the charging blocks).
1) Whole term day specification	Specify the term day and calculates and outputs the air-conditioning charge (proportional division parameter and charge ratio) for all blocks.
2) Whole building output	Calculate and outputs the air-conditioning charge (proportional division parameter and charge ratio) for all blocks every month.
3) Settlement date designation	Specify the air-conditioning charge settlement date.
4) Charge set	Call the Air-conditioning energy monitoring basic set screen.
Recalculation	Recalculate the air-conditioning charges.
Last month calc.	Calculate the last month (collects and calculates data). (Only when "connect when needed" is selected.)

Maintenance Tip

- From Version 4.30, details such as the per unit and per charge unit items are compatible with the independent specification's date specification and whole building object's whole term day specification output details. The output format has changed due to this. A "Basic charge" item is provided, but since the date specification is not a one-month unit, this is blank.
- The details of the per unit and per charge unit settings follow the details set by the user.

9.2 Block and Meter Air-conditioning Energy Monitor Display

(1) Select the display object

* The meter and gas meter, etc., are included in the meters.

1) Select the display object.

[Without meter connection]

Select the display object with the [Outdoor unit] or [Indoor unit] button at the top left-hand side of the screen. The display object is only Block.

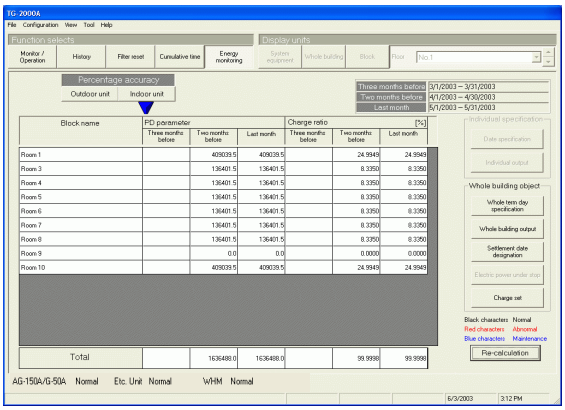
[With meter connection]

Select the display object with the [Charge block] or [Watt hour meter] button at the top left-hand side of the screen.

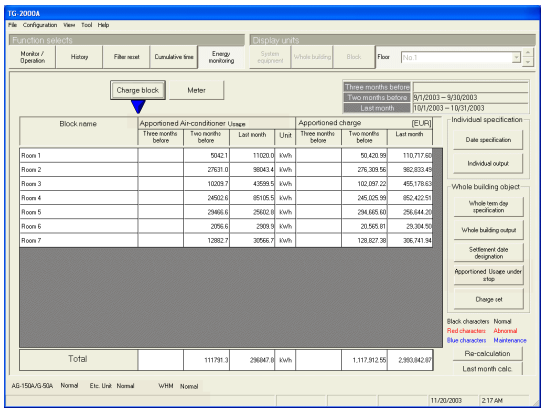
(2) Display color

Characters color

Black characters : Normal
Red characters : Abnormal
Blue characters : Maintenance



Air-conditioning charge display (for indoor unit)



Air-conditioning charge display (for watt hour meter)

Note:

- The proportional division parameter, charge ratio, apportioned air-conditioner usage, apportioning charge, etc. displays are the values with the undisplayed digits raised to the next higher digit.
  The total is the total of the displayed values.
- When the maintenance function was used to change and recalculate the proportional division parameter value or apportioned air-conditioner usage, the characters turn to blue.
- The charging block consists of control system blocks.
- The individual object is valid only for the With WHM connection.
- The air conditioning charges are displayed in red while the TG-2000A's billing process is stopped. When using the WHM with PLC connected, the charge apportioning will be carried over to the next day, but the TG-2000A power must be checked.
  Remedial apportioning is required when using the RS-485 WHM.

Reference)

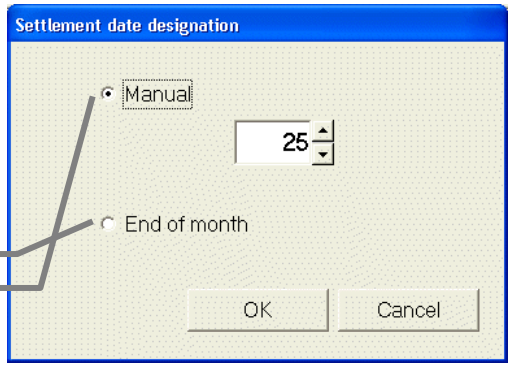
- For a description of the maintenance function, refer to Site Adjustment manual section “9.2 Maintenance of Charge Data”.
- For a description of the recalculation function, refer to section “9.6 Recalculate the Air-conditioning Charge”.

9.3 Air-conditioning Charge Output

(1) Set the automatic output function

[Procedure]

1) Select [Settlement date designation] button.
   When the [Settlement date designation] button at the bottom right-hand side of the screen is clicked, the settlement of date designation screen opens.
2) Specify the settlement date.
   End of month: click [End of month].
   Other than the end of month: click [Manual].
   Set the date by clicking the "▲/▼" buttons.
   * Values can be directly input from the keyboard.



Settlement date designation display

Note:
- The air-conditioning charge for the month is settled on the next day for the settlement date (05:10 and after) for printing or file output automatically (06:45 and after).

Maintenance Tip
- To use the air-conditioning charge automatic output function, set energy monitoring automatic output of the user settings.
- Select "Air-conditioning output processing" from "Standard", "Items for every unit", and "Items for unit out of normal working hours". (For more information, refer to Site Adjustment manual section "8.3 User Settings".)

(2) Description of functions

1) Individual air-conditioning charge output
   When the Air-conditioning energy monitoring screen is block display, selects and outputs the unit block and when the Air-conditioning energy monitoring screen is watt hour meter display, selects and outputs the unit watt hour meter.
   Date specification : Specifies the term day and calculates and outputs the air-conditioning charge.
   Individual output : Selects 1 month before, 2 months before, or 3 months before and outputs the air-conditioning charge in month units.
2) Whole building air-conditioning charge output
   [Without meter connection … Proportionally divided power charge (manual input of electric amount)] * The meter and gas meter, etc., are included in the meters.
   Specifies all blocks with the following items selected and outputs the air-conditioning charge.
   Whole term day specification : Specifies the term day and calculates and outputs the air-conditioning charge.
   Whole building output : Selects last month, 2 months before, or 3 months before and calculates and outputs the air-conditioning charge in month units.
   [With meter connection]
   Specifies all blocks or watt hour meters and outputs the air-conditioning charge.
   Whole term day specification : Specifies the term day and calculates and outputs the air-conditioning charge.
   Whole building output : Selects last month, 2 months before, or 3 months before and calculates and outputs the air-conditioning charge in month units.

Maintenance Tip
- When using this function to print, set "Printer setting" to "Printer" by user setting.

(3) Individual air-conditioning charge output

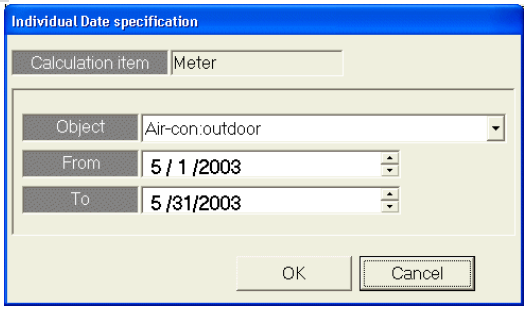
Set the Air-conditioning energy monitoring screen to

- Output in block units: Block display
- Output in meter units: Meter (Watt hour meter) display.

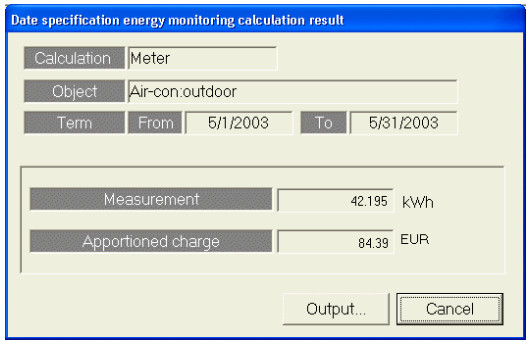
Output the air-conditioning charge by specifying the term day.

[Procedure]

1) Select date specification.
   When the [Date specification] button of the "Individual specification" at the right-hand side of the screen is clicked, the date specification set screen opens.
2) Select the object to be output.
   Click the object box and click the block or meter (watt hour meter) to be output.
3) Specify the date.
   Specify the date by clicking the "▲/▼" buttons.
4) Select [OK] button.
   OK : Accepts the changes and advances to the next set screen.
   Cancel : Ignore the changes and returns to the Air-conditioning energy monitoring screen.
5) Check the calculation contents.
   The setting in 1) to 3) displays the object, date, proportional division parameter, and charge ratio.
   * Check the display contents.
6) Select [Output] button.
   After checking the output contents, click the [Output] button.
   Output : Accepts the changes and advances to the Output type set screen.
   * The set details are invalidated when the [Cancel] button is clicked on.



Date specification set screen



Date specification calculation result screen

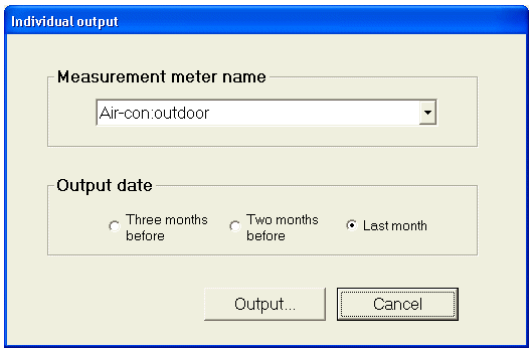
The above ends date specification calculation and output setting.

Note:
- For "Date specification" in "Individual specification", the air-conditioning charges are recalculated and output using the unit price currently set.
- The underlined "Output type set" screen is used in common with other functions. For more information, refer to section "9.3 (5) Output type setting".

Output the air-conditioning charge by specifying last month, 2 months before or 3 months before

[Procedure]

1) Select individual specification.
   When the [Individual output] button of the "Individual specification" at the right-hand side of the screen is clicked, the individual output set screen opens.
2) Select the object to be output.
   Click the object box, and click the block or watt hour meter to be output.
3) Specify the output month.
   Specify the term by clicking the month to be output.
4) Select [Output] button.
   After setting the output object and month, click the [Output] button.
   Output : Accepts the changes and advances to the Output type set screen.
   * The set details are invalidated when the [Cancel] button is clicked on.



Individual output set screen

The above ends individual output setting.

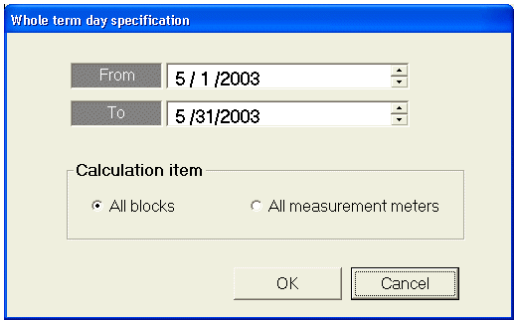
Note:
- For "Individual output" in "Individual specification", the air-conditioning charges already calculated are output.
- The underlined "Output type set" screen is used in common with other functions. For more information, refer to section "9.3 (5) Output type setting".

(4) Output whole building air-conditioning charge

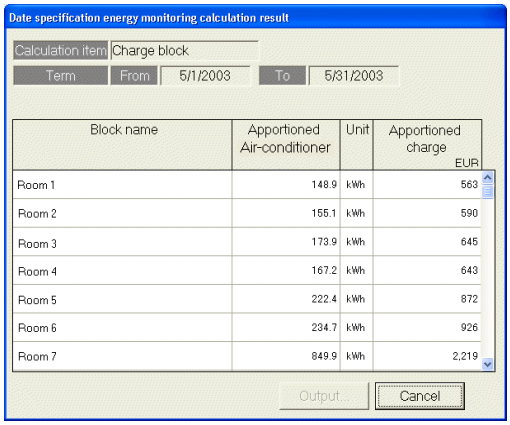
Output the air-conditioning charge by specifying the term

[Procedure]

1) Select Whole term day specification.
   When the [Whole term day specification] button of the “Whole building object” at the right-hand side of the screen is clicked, the Whole term day specification set screen opens.
2) Select the object to be output.
   Click All Blocks or All measurement meters.
3) Specify the term day.
   Specify the term day by clicking the “▲/▼” buttons.
4) Select [OK] button.
   After specifying the output object and term day, click the [OK] button.
   OK : Accepts the changes and advances to the next set screen.
   * The set details are invalidated when the [Cancel] button is clicked on.
5) Check the calculation result.
   When the setting in 1) to 3) displays the object, term, proportional division parameter, charge ratio, or the apportioned air-conditioner usage and apportioning charge.
   * Check the display contents.



Whole term day specification set screen



Whole term day specification calculation result screen

Note:
- For Without WHM connection proportionally divided electric charge (manual input of the electric amount), the calculation value for the object (outdoor unit or indoor unit), which is displayed when the [Whole term day specification] button is clicked, is displayed at first.
  When the "Indoor unit" or "Outdoor unit" is clicked, the display object is changed. In this case, the value is output for both cases.

6) Select [Output] button.
   Output : Accepts the changes and advances to the Output type set screen.
   * The set details are invalidated when the [Cancel] button is clicked on.

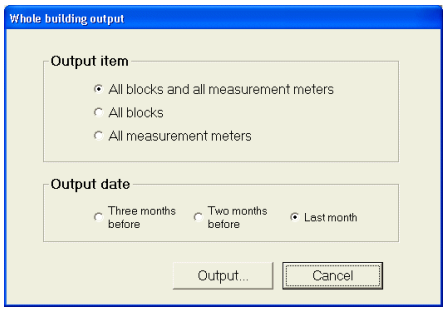
The above ends whole term day specification calculation and output setting.

Note:
- For “Whole term day specification” in “Whole building object”, the air-conditioning charges are recalculated and output using the unit price currently set.
- The underlined “Output type set screen” is used in common with other functions.
  For more information, refer to section “9.3 (5) Output type setting”.

Output the air-conditioning charge by specifying last month, 2 months before, or 3 months before

[Procedure]

1) Select Whole building output.
   When the [Whole building output] button of the “Whole building object” at the right-hand side of the screen is clicked, the Whole building output set screen opens.
2) Select the object to be output.
   Click All blocks, All measurement meters, or All blocks and all measurement meters.
3) Specify the output month.
   Specify the term by clicking the month to be output.



Whole building output set screen

4) Select [Output] button.

Output : Accepts the setting and advances to the Output type set screen.

* The set details are invalidated when the [Cancel] button is clicked on.

The above ends whole building output setting.

Note:

- For “Whole building output” in “Whole building object”, the air-conditioning charges already calculated are output.
- The underlined Output type set screen is used in common with other functions. For more information, refer to section “9.3 (5) Output type Setting”.
- When the "All blocks and all measurement meters" output item is selected, the data will be output to one file.

(5) Output type setting

The following operations are necessary at output functions (3) and (4) above.

[Procedure]

1) Select the output type.

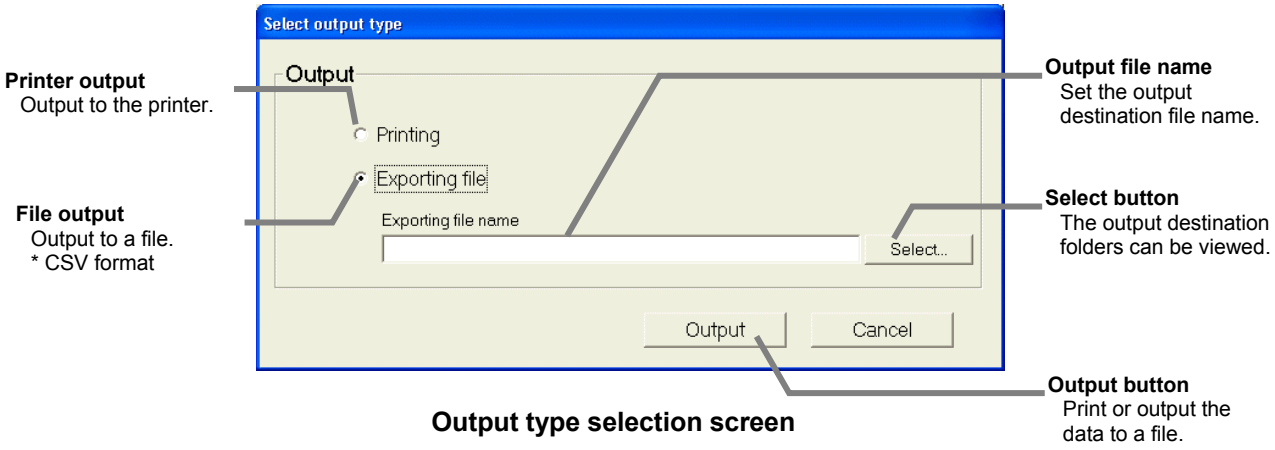
The output type is displayed.

To print, click [Printing output] and to output a file, click [Exporting file] and input the file name.

2) Select [Output] button.

When the [Output] button is clicked after selecting the output method, the output processing is executed.

* If the [Cancel] button is clicked in this case, this setting is invalidated, and the screen returns to the Air-conditioning energy monitoring screen.



Output type selection screen

9.4 Air-conditioning Charge Basic Setting

Set the Standard charges, weekly charges and annual charges, etc., used for the charge function this integrated centralized control software (TG-2000A) system.

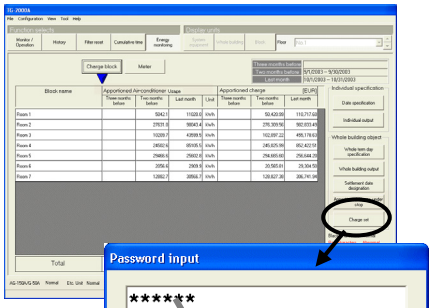
Maintenance Tip (Caution):

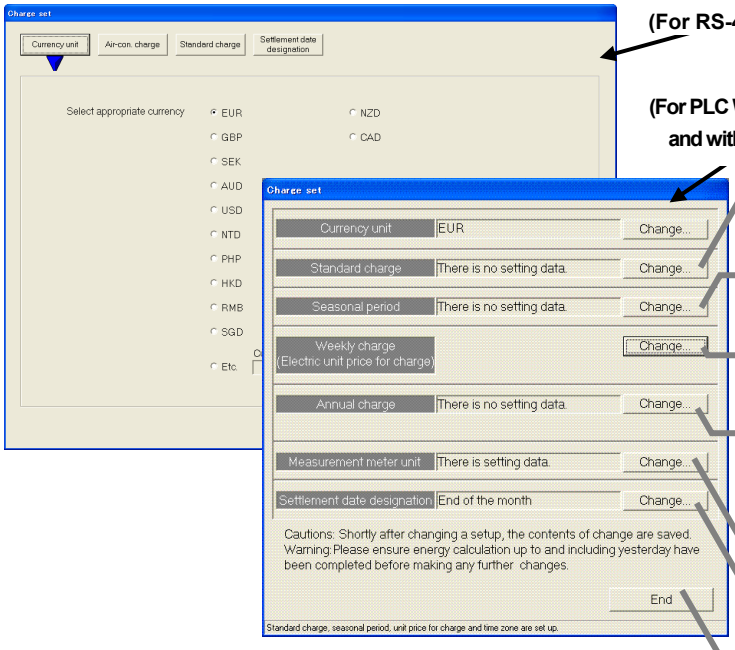
- When changing the charge setting, use the procedure below to calculate the air-conditioning charges.
  a) Before changing the charge setting, calculate and output the air-conditioning charges up to the previous day in the current month in "Whole term day specification".
  b) Change the charge setting.
  c) After the charge setting has been changed and the calculation date has passed, calculate and output the air-conditioning charges from the date the charge setting changed to the settlement date in "Whole term day specification".
  d) Calculate the charges for the month as "result of a)" + "result of c)" + "basic charge".
- The changed unit price applies to charges calculated after the change is made.
  If "Individual output" or "Whole building output" will be output at the changed unit price, recalculate the charges prior to output.
- The new setting of the Weekly/Annual charge time zone is effective on the day and after the setting is changed. For the earlier days' calculation, the previous setting is used.
- When an On/Off schedule for the air-conditioner is set at a time when the unit price changes, the timing may result in an invoice being issued for air-conditioning charges at the incorrect unit price.
  (Example) Unit price 1: 08:00-17:00 Tenants not invoiced
  Unit price 2: Times other than the above Tenants invoiced
  In the schedule, the air-conditioner stops at 17:00
  Due to the timing, the operating time is added at unit price 2 when the air-conditioning charges are invoiced.
  To prevent invoicing at the incorrect unit price for air-conditioning charges, run scheduling so that the starting and stopping of air-conditioning units does not coincide with changes to the unit price.
- To facilitate charge processing, etc., do not change the charge settings during the period from 00:00 to 08:00.

Set the air-conditioning charge basic setting.

[Procedure]

1) Select [Charge set].
   When the [Charge Set] button at the lower right of the Air-conditioning charge screen is clicked, the Password input screen opens.
2) Input the password.
   Input the user maintenance password and click on the [OK] button. The Charge setting screen opens.





(For RS-485 WHM)

(For PLC WHM, PI controller WHM, and without WHM connection)

Password setting
Set the password (for maintenance user).

Standard charge
Set the basic charge for the block and meter (WHM).

Seasonal period
Set the validity of seasonal periods and the applicable periods.

Weekly charge
Set the time zone for each day, and the charge unit for the week.

Annual charge
Set the time zone pattern, and the applicable dates. The corresponding charges set for the weekly charges are used for the charge unit.

Meter charge unit
Set the charge unit used for the meters other than the WHM. The time zones set for the annual charges are used for the time zones.

Settlement data designation
Settlement date setting for every month.

Setting complete button
Select when all items have been set.

3) Select and set each setting item.
   * Refer to this chapter for details on setting each item.

4) Select [OK] button.
   At the end of basic setting, click the [OK] button.
   * When the [Cancel] button is clicked, this setting is invalidated.

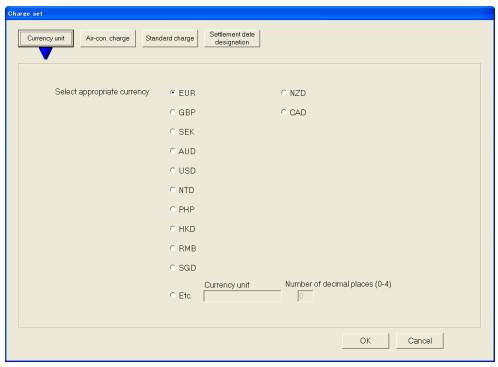
Note:
- The "Standard charge" and "Meter charge unit" functions cannot be used with power apportioning billing (manual input of electric amount).

[Using the RS-485 WHM]

Set the Currency unit

[Procedure]

1) Click the [Currency unit] button.
   Click the [Currency unit] button in the Charge Set screen. The currency unit set screen opens. This screen is also displayed when the currency Set screen is opened.
2) Select the currency unit to be used.
   Click the option box of the currency unit to be used. Otherwise, in “Etc.” column, set a currency unit (9 characters) and the number of digits to be displayed after the decimal point (0 to 4).



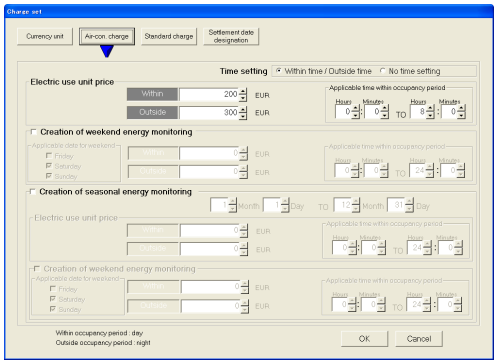
Currency unit set screen

Set the electric use unit price

Set the electric use unit price. One charge system can be selected from daytime/nighttime, weekend, seasonal charge, etc.

[Procedure]

1) Select the charge system to be used.
   Set the charge system by clicking the option button at the charge system you want to use.
2) Select the unit price and applicable time or applicable day of the week.
   Select the unit price, applicable time, applicable date, or applicable day of the week in accordance with the set charge system.
   Some of the data can also be input from the keyboard.



Charge set

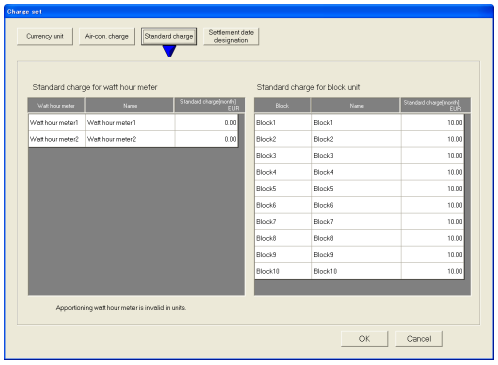
Note:
- Within a time (daytime) setting cannot span days.
- One within a time (daytime) setting per day is possible.

Set the standard (fixed) charge

Block units and watt hour meter units standard charge (per month) can be set. However, for standard charge in watt hour meter units, only the watt hour meter unit charge object (K controller, A controller, OA processing unit, etc.) can be set.

[Procedure]

1) Click the [Standard Charge] button.
   When the [Standard Charge] button on the Charge Set screen is clicked, the standard charge set screen opens.
2) Set the standard charge.
   Set the standard charge in watt hour meter or block units. For watt hour standard charge, only charge in watt hour meter units is the object.
   Standard charge can be input from the keyboard by clicking with the cursor.
   Clicking the standard charge allows the value to be input from the keyboard.



Standard charge set screen

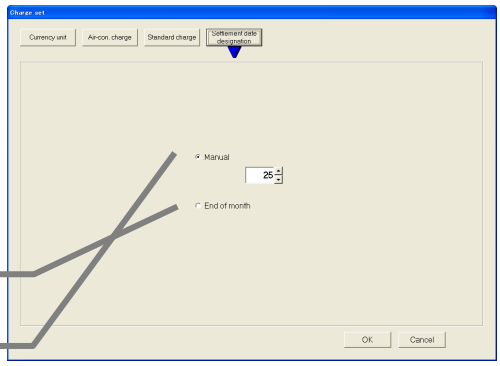
Note:
- When there is no WHM connection the watt-hour standard charge cannot be set.

Set the settlement date

Since the air-conditioning charge is calculated once a month, set the settlement date.

[Procedure]

1) Click [Settlement date designation] button.
   When the [Settlement-date designation] button at the screen is clicked, the Settlement-date designation setting screen opens.
2) Specify the settlement.
   To specify the end of month, click [End of month].
   To specify the actual date, click [Manual] and select the date by clicking the "▲/▼" buttons.
   * Numerical values can also be input from the keyboard.



Settlement data designation setting screen

Note:

- The 29th, 30th, and 31st cannot be set as the settlement-date designation. (However, they can be set as the end of month.)
- Automatic printing or file output is possible after settlement-of-accounts. (Refer to the Site Adjustment manual.)

[Using the PLC WHM or PI controller WHM]

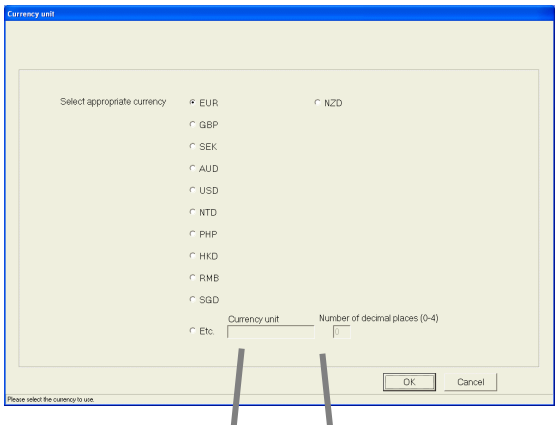
(1) Currency unit setting

Set the current unit to be used.

Set the Currency unit

[Procedure]

1) Click the currency unit [Change] button.
   Select the currency unit [Change] button on the Charge Set screen to open the Currency unit screen.
2) Set the currency unit.
   Select the currency unit from the list.
   If the required currency unit is not displayed in the list, select "Etc.", and enter the currency unit in the [Currency Unit] field.
   Enter the number of decimal places in the [Number of decimal places (0-4)] field.
3) Select the [OK] button to end the settings.
   * If the [Cancel] button is clicked on, the settings will be canceled and the Charge Set screen will open.



Currency unit setting screen

Currency unit setting

Number of decimal places

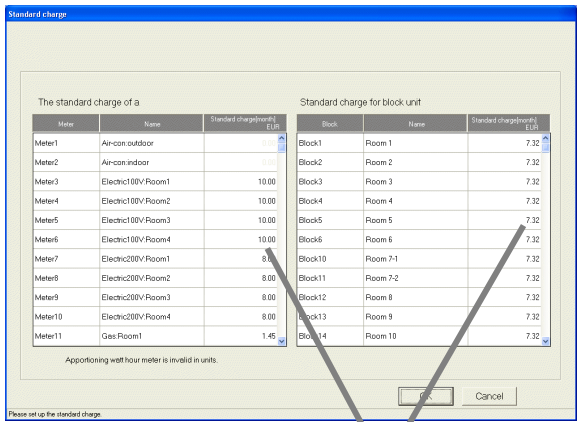
(2) Set the basic charges

Set the basic charges (monthly charges for the block unit and meter unit.

Set the basic charges

[Procedure]

1) Select the basic charge [Change] button.
   Select the basic charge [Change] button on the Charge Set screen to open the Basic Charge screen.
2) Set the basic charges.
   Input and set the basic charge in the meter or block unit.
   * The basic charges cannot be set for the watt hour meter used for the air conditioner unit.
3) Select the [OK] button
   * If the [Cancel] button is clicked on, the settings will be canceled and the Rate Setting screen will open.



Basic Charge Setting screen

Basic charge

Set the basic charge (monthly unit) for the block and meter unit.

Note:
- This setting screen does not appear when using the power apportioning billing (manual input of electric amount) without WHM connected.

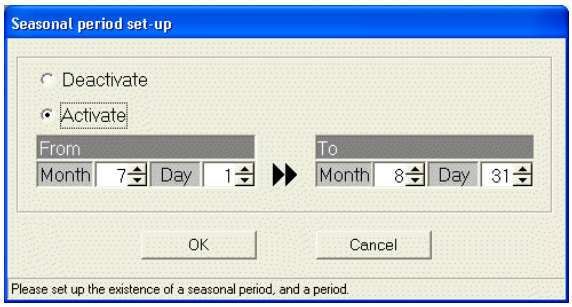
(3) Set the season interval

Set the applicable period when using the seasonal charges.

Set the seasonal period

[Procedure]

1) Select the seasonal period [Change] button.
   Select the seasonal period [Change] button on the Charge Set screen to open the Seasonal period Setting screen.
2) Set the validity of the season setting and the period.
   Select the validity of the seasonal charge setting, and if valid, set the period.
3) Select the [OK] button to end the settings.
   * If the [Cancel] button is clicked on, the settings will be canceled and the Charge Set screen will open.



Seasonal period setting screen

Note:
- Set the validity of season and the period on this Seasonal period setting screen. The seasonal period charge units are set with the weekly charge settings.

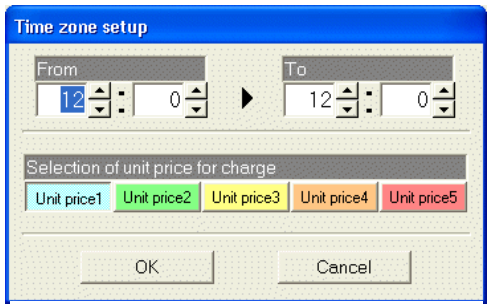
(4) Weekly charge setting

Set the weekly charge unit and charge time zone. Up to five charge units, and up to ten charge time zones per day can be set. The charge unit can be set for the normal system and seasonal period system.

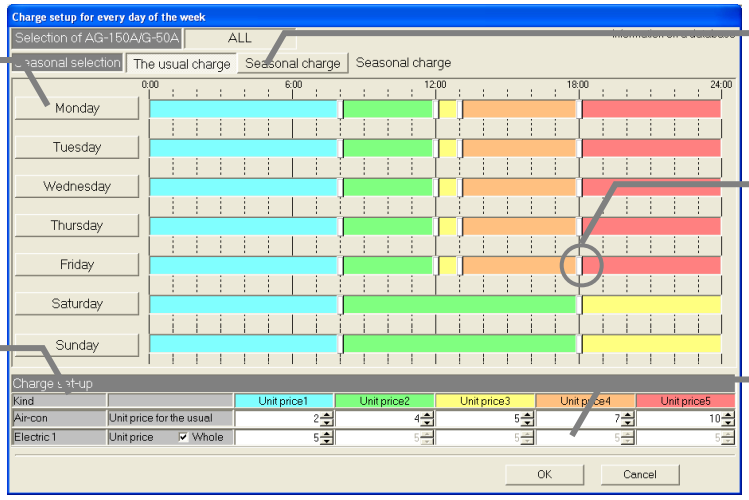
Set the charge unit and charge time zone.

[Procedure]

1) Select the weekly charge [Change] button.
   Select the weekly charge [Change] button on the Charge Set screen to open the Weekly Rate Setting screen.
2) Select the day to be set.
   Click on the day to be set, and then select the [Set] button in the submenu. The Time Zone Setting screen appears.
3) Set the charge unit and charge time zone.
   Set the start and end times of the time zone, and select the charge unit.
4) Select the [OK] button on the Time zone setting screen.
   After setting the charge unit and time zone, select the [OK] button on the Time Zone Setting screen.
   * The settings can also be input from the keyboard.
   * Repeat steps 2) to 4) and set all days.
   * If there is a seasonal period setting, set the charges for both the normal and season operations. (Switch between the [Normal Charge] and [Seasonal charge] buttons.)
5) Set the charge unit.
   Set the charge units in charge units 1 to 5. The units can be input from the keyboard.
   *Set only the charge units to be used. When using seasonal charges, also set the charge units for these.
6) Select the [OK] button to end the settings.
   * If the [Cancel] button is clicked on, the settings will be canceled and the Charge Set screen will open.



Time Zone Setup window



Day button
The Set, Cancel, Copy, Paste menu appears when clicked.

Charge setting
Set the charge units for the WHM.

The usual charge/ Season charge buttons
Switch between the Normal charge and Search charge screens.

Time zone delimiter mark
Show the time zone delimiter. The delimiter mark can be dragged and moved. (10-minute increments.)

Charge unit
Set the charge unit

Weekly Charge Setting window

Note:

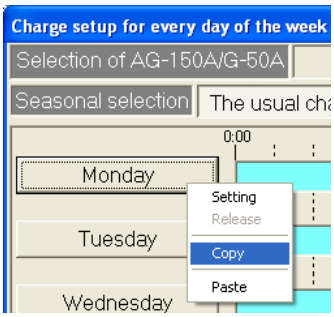
- If there is an open field (including a 0 value) in the setting items, a caution appears. Check the settings.
- The weekly charges can also be set from the Management screen.
- As the default, the time zone only for the charge unit 1 is set. The default charge unit is 0.
- The air-conditioning charge's "charge percentage" is calculated using the charge unit set on this screen, even for the power apportionment billing (manual input of electric amount) function (*). Always set the charges. *: Power apportionment billing function without WHM connected.
- The charge units are also used for the annual charge settings, so take care when making any changes.

Copying, pasting and deleting charge time zones

Copy, paste or delete the charge time zones.

[Procedure]

1) Select the day button.
   When the day button on the Weekly Rate Setting screen is opened, a submenu opens.
2) Select the [Copy], [Paste], [Release] buttons.
   The details set in the day's time zone can be copied, pasted or deleted.



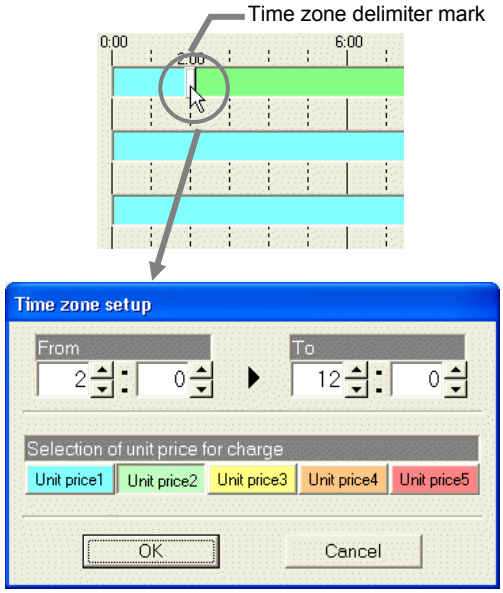
Item	Details
Copy	The details set for that day's time zone are copied when the [Copy] button is clicked.
Paste	The copied time zone settings are pasted when the [Paste] button is clicked.
Release	The details set for that day's time zone are deleted, and only the default time zone setting in charge unit 1 is set when the [Release] button is clicked.

Change the pattern

Use this function to change the set pattern.

[Procedure]

1) Drag the time zone delimiter mark.
   The time zone delimiter time can be moved by dragging and moving the delimiter mark. The time can be moved in 10-minute increments.



Change the charge unit

The time zone charge units in a set pattern can be changed.

[Procedure]

1) Select the time zone.
   The Time Zone Setting window opens when selected.
2) Select the charge unit.
   Click on the charge unit to be changed.
3) Select the [OK] button after making changes.

(5) Annual charge setting

The charge time zone for days that do not apply to the weekly charge settings, such as holidays and summer vacation, can be set in the annual charge time zone. The charge time zone for up to 50 days up to 24 months (including current month) can be set in advance.

To set the annual charge zones, first set the charge zone patterns (up to five in patterns 1 to 5). Then, assign patterns to days such as the holidays or summer vacation. The values for the weekly charge zones are used so the charge units do not need to be set.

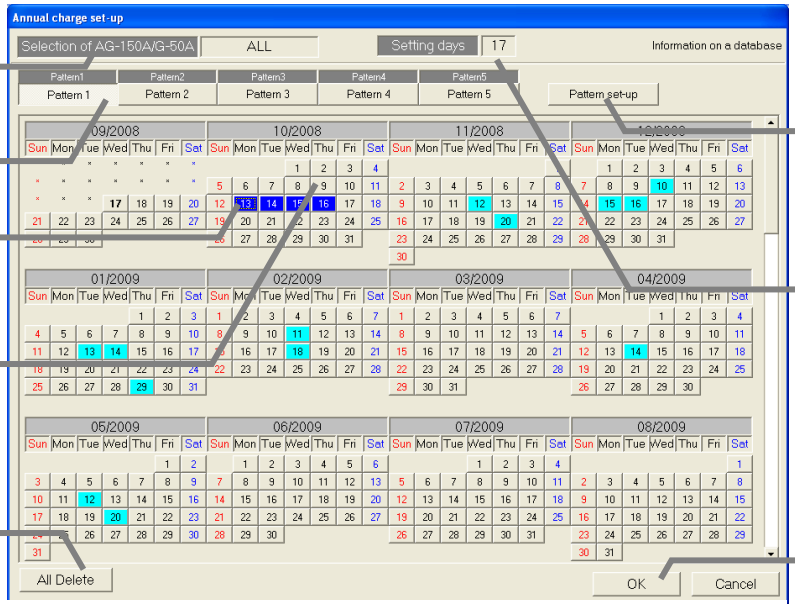
Object display
Display the display object.

Pattern buttons
Buttons for the five patterns.

Pattern setting/cancel
When the date is clicked, the selected pattern can be set or canceled.

Setting state display
The date for which annual charges are set is displayed in blue, dark gray, light gray or light blue.

All Cancel button
All annual charge settings can be canceled.



Pattern Setting/ Change button
The charge pattern can be set or changed.

No. of days set in year display
The number of days for which annual charges are set are displayed.

OK button
Click when finished.

Annual Charge Setting screen

Set the pattern and charge time zone

[Procedure]

1) Select the annual charge [Change] button.
   Select the annual charge [Change] button on the Charge Set screen to open the Annual Charge Setting screen.
2) Select the [Pattern Set/Change] button.
   Select the [Pattern Set/Charge] button on the Annual Charge Setting screen to open the Annual Charge Pattern Setting screen.
3) Set the charge unit and charge time zone.
   Set the start and end times of the time zone, and select the charge unit.
   * The settings can also be input from the keyboard.

4) Select the [OK] button on the Time Zone Setting window.

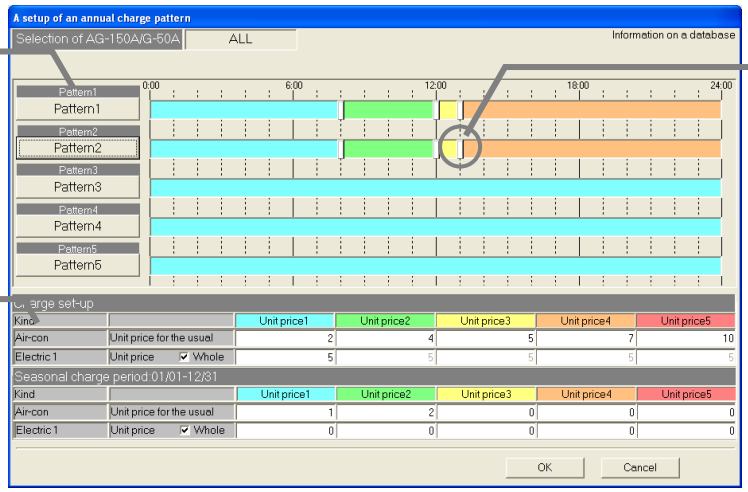
After setting the pattern charge time zone, select the [OK] button on the Time Zone Setting screen.

* The settings can also be input from the keyboard.

* Repeat steps 2) to 4) and set the required patterns.

Pattern button
Up to five patterns can be set for the annual charges.
When the pattern button is clicked, the Set, Cancel, Copy, Paste, Set Pattern Name menu opens.

Charge unit display
Display the details set for the charge unit.



Time zone delimiter mark
Show the time zone delimiter.
The delimiter mark can be dragged and moved.

Annual Charge Pattern Setting screen

5) Select the Pattern button.

Click and select the button for the time zone pattern to be set.

6) Select the date.

Click the date for which the annual charges in that pattern are to be set. The date box changes to blue, and the annual charges are set.

7) Select the [OK] button to end the settings.

* If the [Cancel] button is clicked on, the settings will be canceled and the Charge Set screen will open.

Note:

- If there is an open field (including a 0 value) in the setting items, a caution appears. Check the settings.
- The annual charges can also be set from the Management screen.
- As the default, the time zone only for the charge unit 1 is set.

Displaying the annual charge settings

The settings from the current month to 24 months in advance are displayed in the annual charge settings. The annual charge settings following the current day can be changed.

Colors used for date box in calendar

Blue : Annual charge is set for object pattern
Light blue : Annual charge is set for non-object pattern
Light gray : No annual charge is set

Setting the annual pattern name

A name (example: holiday setting) can be set for patterns 1 to 5 on the Annual charge pattern setting screen.

[Procedure]

1) Select the Pattern button.

A submenu opens when the pattern button is pressed on the Annual Charge Pattern Setting screen.

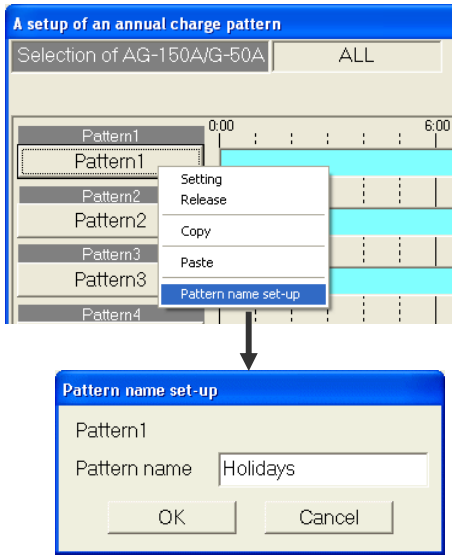
2) Select the [Pattern Name Setting] button.

The Pattern Name Setting window opens when the submenu [Pattern Name Setting] is selected.

3) Set the pattern name

Input the pattern name. The application being used can be input and displayed on the Annual Rate Setting screen.

* Up to 10 characters can be set.



4) Select the [OK] button to end the settings.
   * If the [Cancel] button is clicked, the settings are canceled and the Annual Charge Pattern Setting screen opens.

Changing the pattern

Use this function to change a set pattern.

[Procedure]

1) Select [Pattern Set/Change].
   The Annual Charge Pattern Setting screen opens when the [Pattern Set/Change] button is selected on the Annual Rate Setting screen.
2) Change the details set for the time zone.
   The procedure is the same as changing, copying, pasting or deleting the weekly charge pattern.
3) Select the [OK] button to end the settings.

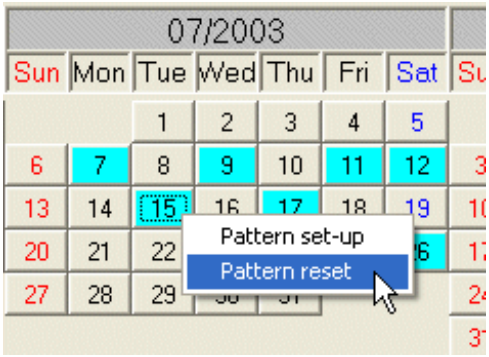
Note:

- The date of the annual charges used in the pattern is also affected when the pattern is changed.

Cancel the annual charge pattern

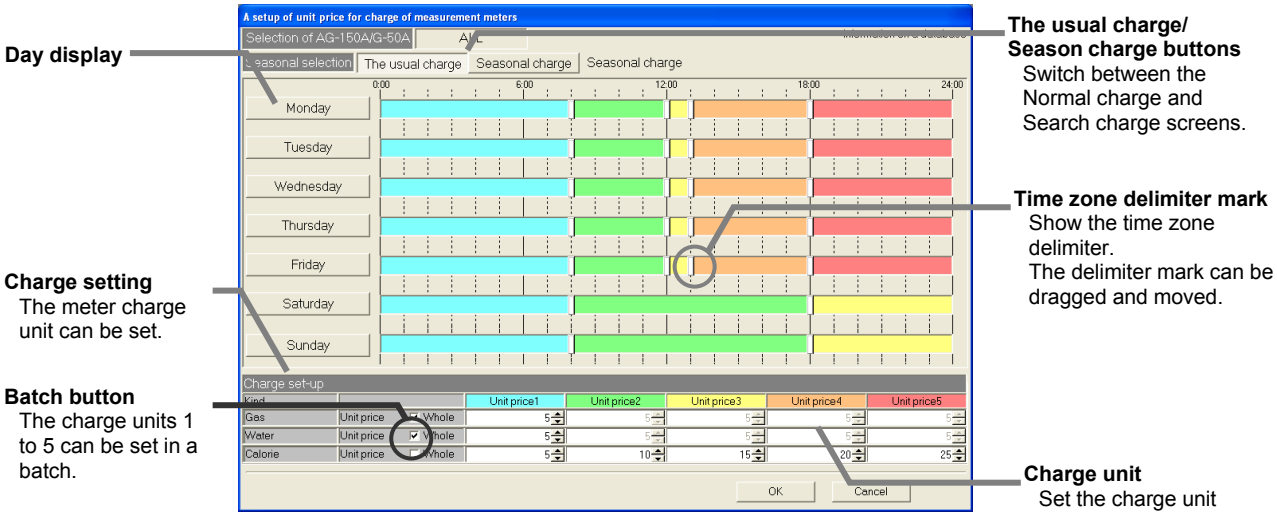
[Procedure]

1) Select the date for which an annual charge is set.
   Click the date for which the annual charge pattern is to be canceled. The setting is canceled if it is the same as the selected pattern.
2) Select the [Pattern Cancel] button from the submenu.
   If the selected date differs from the selected pattern, the submenu appears. Select the [Pattern Cancel] button, and cancel the pattern assignment set for that date.



(6) Meter charge unit setting

The charge unit for the gas, water and calorific value meter can be set. The time zone and start time, etc., are the same as the air-conditioner.



Meter charge unit setting screen

Set the charge unit.

[Procedure]

1) Select the meter charge unit [Change] button.
   Select the meter charge unit [Change] button on the Charge Set screen to open the setting screen.
2) Set the charge unit.
   Set the charge unit for each meter.
   * Set all charge units 1 to 5. The settings can also be made from the keyboard.
   * If a seasonal period applies, set both the normal and seasonal charges.
     (Switch with the [The usual Charge] and [Seasonal charge] button.)
3) Select the [OK] button to end the settings.
   * If the [Cancel] button is clicked on, the settings will be canceled and the Charge Set screen will open.

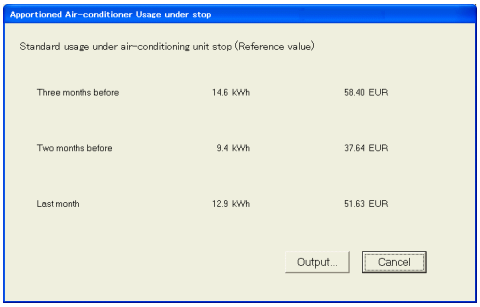
9.5 Under Stop Charge

"Under stop charge" is the standby used by the outdoor unit crankcase heater.

Output and display the apportioned usage and charge under stop

[Procedure]

1) Select Apportioned Usage under stop.
   When the [Apportioned Usage under stop] button of the "Whole building object" at the right-hand side of the screen is clicked, the Electric power under stop screen opens.
2) Check the display contents.
   The apportioned usage under stop for up to three months is displayed.
3) Select [Output] button.
   After specifying the output object and date, click the [Output] button.
   Output : Accepts the changes and advances to the Output type set screen.
   Cancel : Ignore the changes and returns to the Air-conditioning energy monitoring screen.



Aportioned usage under stop screen

The above ends Aportioned Usage under stop output setting.

Note:

- The underlined "Output type set screen" is used in common with other functions.
  For more information, refer to section "9.3 (5) Output type setting".
- For Without WHM connection, this function cannot be used.
- Apportioned Usage under stop
  Outdoor unit apportioned usage under stop = outdoor unit crankcase heater capacity (W) × 24 hours
  This is the guide for the air-conditioner usage.

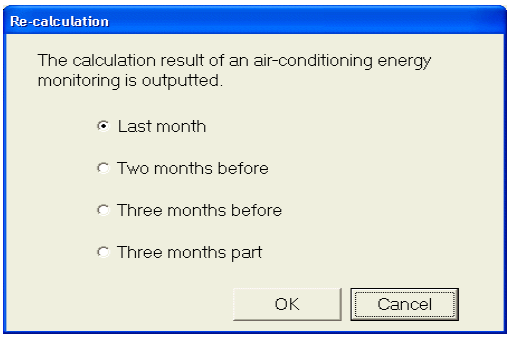
Maintenance Tip

- Use this function (under stop charge) only when "Make crankcase heater portion common expense (make under stop charge)" was selected by charge system setting "Charge proportional division method selection".
  (For a description of "Charge proportional division method selection," refer to Site Adjustment manual section "8.12 Energy monitoring Set-up".)

9.6 Recalculate the Air-conditioning Charge

Recalculate the air-conditioning charge

This function recalculates the air-conditioning charge for one month based on the proportional division parameter or apportioning air-conditioner usage already calculated.
When the maintenance function was used to correct the proportional division parameter or apportioning air-conditioner usage, use this function to recalculate the air- conditioning charge.
Also, if the unit price is changed and air-conditioning charges are output using the changed unit price, this function should be recalculated.



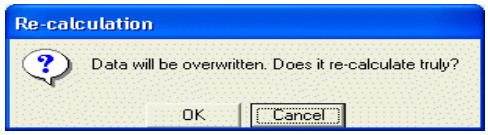
Recalculation screen

[Procedure]

1) Select [Recalculation].
   When the [Recalculate] button at the bottom right-hand side of the screen is clicked, the recalculation screen opens.
2) Select the recalculation month.
   "Last month" "Two months before" "Three months before" "Three months part"
3) After specifying the recalculation month, click the [OK] button.
   This setting is validated, by which the air-conditioning charge for the designated month is recalculated, which is reflected upon the Air-conditioning energy monitoring screen.

Caution) The calculation confirmation screen, which is shown on the right, is displayed before the calculation is executed. If the [OK] button is clicked, the recalculation is executed.

* If the [Cancel] button is clicked in this case, this setting is invalidated, and the screen returns to the Air-conditioning energy monitoring screen.



Calculation confirmation screen

Note:
- For a description of the apportioning air-conditioner usage or proportional division parameter correction method, refer to Site Adjustment manual section “9.2 Maintenance of Charge Data”.

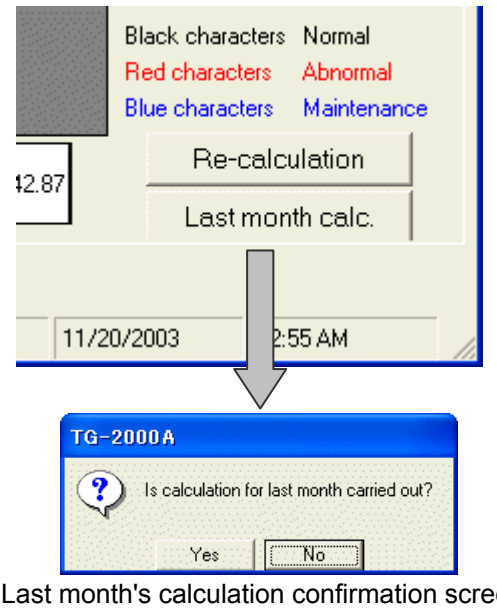
9.7 Last month calculation (Only when "connect when needed" is selected.)

Calculate the last month

This function reads out the last month's data collected by the G-50A and PLC, calculates the apportionment, calculates the air-conditioning charges, settles the account, and calculates the air-conditioning charges for the last month.
This function is valid only when "connect when needed" is selected.

[Procedure]

1) Select [Last month calc.]
   When the [Last month calc.] button at the lower right of the screen is clicked, the screen for confirming the last month's settlement will appear.
2) Select "Yes" or "No".
   When "Yes" is clicked, the last month's data will be collected, and the apportionment will be calculated and settled. The results are reflected on the Air-conditioning charge display screen.
   * It may take some time to calculate the last month's settlement, so wait for the message "Please wait" to go out.



Last month's calculation confirmation screen

Note:
- If there is a problem, such as a communication error with even one centralized controller or PLC while calculating the last month, a message will appear. Check the connection, resolve the problem, and then calculate the charges again.
- If the last month has already been calculated (already displayed on the Energy Monitoring screen), the data will be overwritten when this function is executed.

10. Trend Graph

10.1 Graph Display

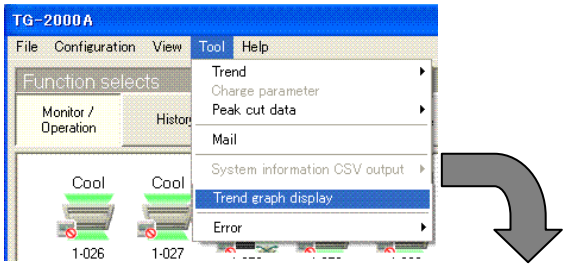
This function can display the graph of ON/OFF status and room temperature for the air conditioner, settlement value for watt hour meter and the value of measuring temperature/humidity.

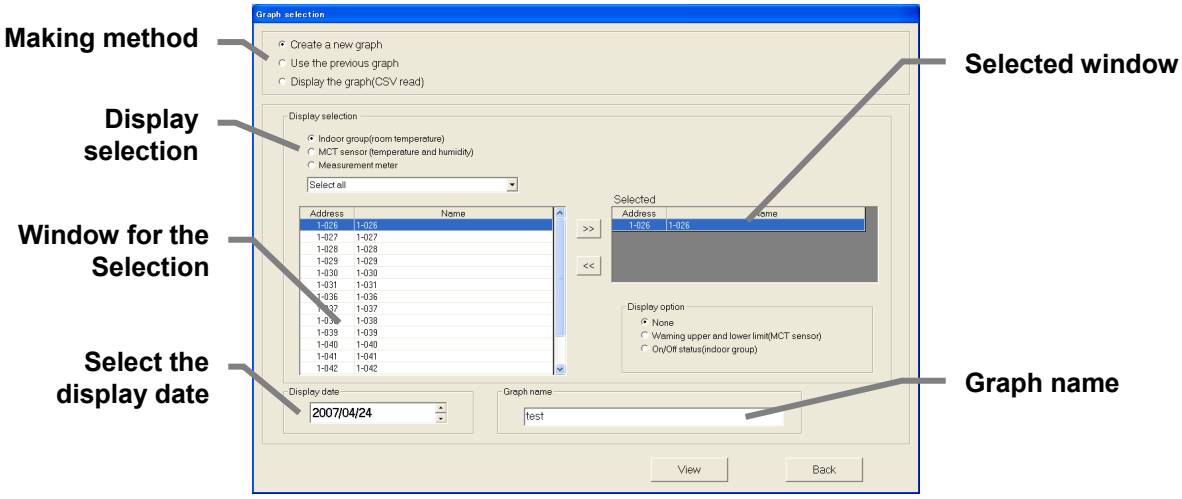
To select a graph

[Procedure]

1) To display the screen of selecting a graph.

Pull down tool menu and select [Trend graph display]. Graph selection display will appear.





Graph collecting screen

2) To select the making method of the graph.

Create a new graph	: Creating a new graph.
Use the previous graph	: Creating a graph with other data.
Display the graph (CSV read)	: Creating a graph from CSV file.

[Procedure]

In the case creating a new graph.

(1)Click the [Create a new graph] and select the display category.

(2)Click the arbitrary unit from current window to register as the selected window with the “>>” button or Double-click the arbitrary unit.

*1: Enable to select up to 5 units at once.

*2: Enable to display up to 2 types of the graph at once.

(3)Display option setting for each purpose.

The function of display option is creating a graph with the selected information.

*1: Each unit has restrictions on the selection.

(4)Click the display date.

(5)Enter the name of the graph.

(6)Click the display button.

Note:

- The following items can be selected for the graph.
  Indoor group (room temperature)
  MCT (AI controller) sensor (temperature and humidity)
  Measurement meter
  The graph will show the data for the specified date only.

In the case of graphing with another data.

Creating a graph based on a saved data.

(1)Select a diversion data as in CSV file.

Require those procedures to change or add the graph.

- Click the arbitrary unit from current window to register for the selected window with the >> button or double-click the arbitrary unit.
- Set the display option for each purpose.
  The function of display option is creating a graph with the selected information.
- Click the date for display.
- Enter the name of the graph.

(2)Click the display button.

In the case of graphing as in graph display (CSV read).

Recreating a graph by using a saved graph.

(1)Select the CSV file.

(2)Click the display button.

Note:

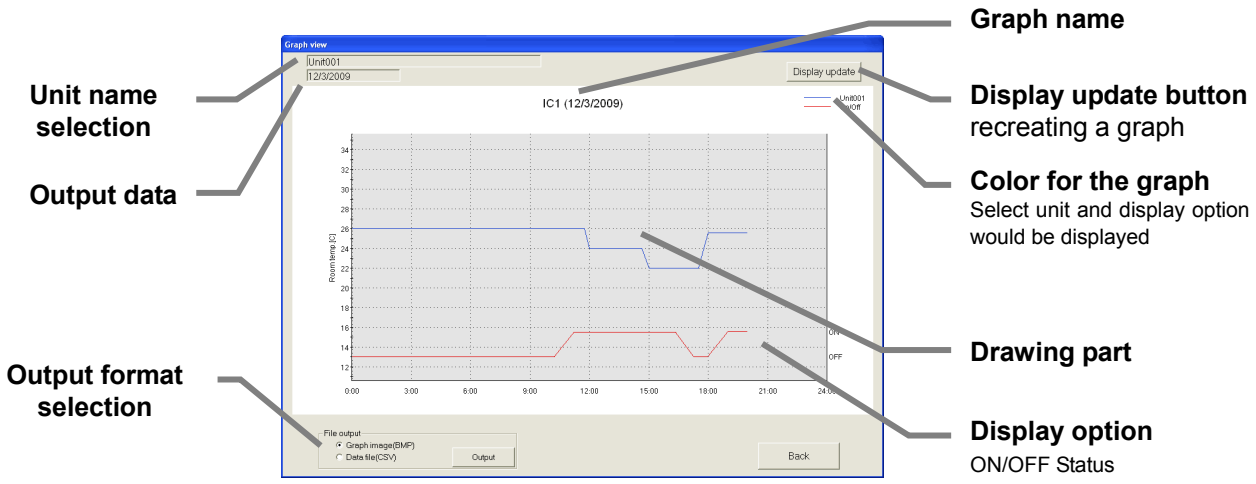
- CSV file, which can be used for creating a graph with diversion data, or graph display (CSV read) read only CSV file output from the graph display screen showed below.

3) To terminate the graph display function.

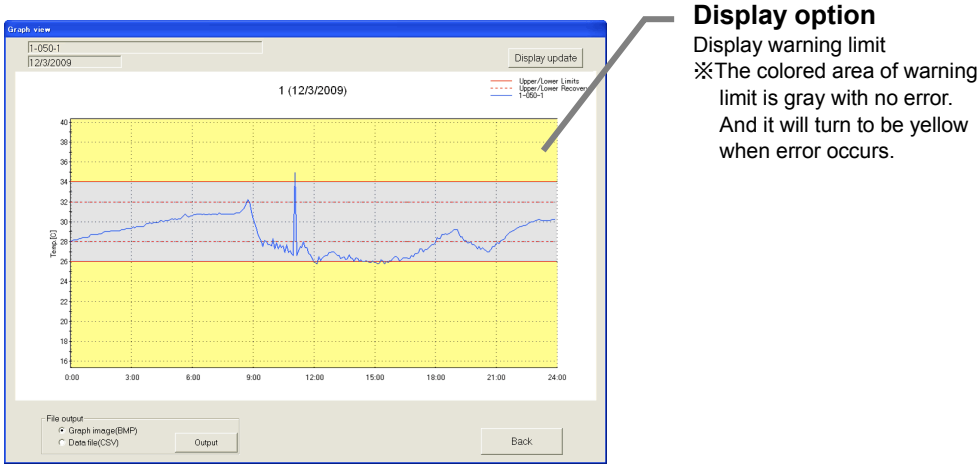
Click the back button to return to the administration screen.

4) To indicate the information of the graph display screen.

Confirm the indicated information of each selected unit.



Graph display screen (Display option : ON/OFF status)



Graph display screen (Display option : Display warning limit setting)

Note:
- The graph name entered and the date on which the data is displayed will appear as the graph's title. If no name is entered, only the date will appear.

5) To up date a graph.
Reread the information of a graph and up date.

6) To save the graph.
Save the graph as in BMP format or CSV file.

In the case of saving the graph as in BMP form.
(1)Select graph image (BMP) from the category of output file filed.
(2)Click the output button.

In the case of putting the graph out as in CSV form.
(1)Select data file (CSV) from the category of output file.
(2)Click the output button.

7) To back to the graph selection screen.
Click the back button.

Note:
- Refer to "8.7 Trend Data Output" for trend data output as in CSV form.

11. System Display (View screen)

It is possible to display the current system configuration, monitoring screen, WHM setting, energy monitoring setting, night mode set-up, System-changeover Set-up and others set-up.
This function checks the system status, but cannot change it.

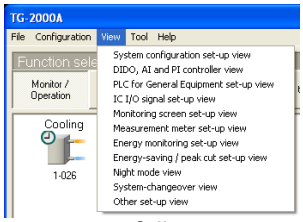
Note
- When AG-150A is connected to the expansion controllers (EC), the number of centralized controller is the same as the number of the EC. (With no EC connection, the number of AG-150A is one.)
- The system settings that are set for each EC, such as system configuration, will be displayed for each EC. To show the status for each EC, select "(G-50 No.)-(EC No.)" by clicking the "▲/▼" buttons.

11.1 System Configuration Display

For the units corresponding to the icons displayed on each set screen, see the table at the right.

Select "System configuration view" in the "View" menu bar

The system configuration screen appears.



Note:
- When changing the system configuration, refer to Site Adjustment manual section "8.7 System Configuration set-up".

Operate the buttons [Next], [Exit], and [Back], which are displayed on each screen, as follows.

Item	Details
Next	Advances to the next screen.
Exit	Returns to the Management screen.
Back	Returns to last screen.

(1) Unit composition of Centralized controller

Displays the number of set centralized controller and the unit configuration of each centralized controller.

Select the centralized controller to be displayed by clicking the "▲/▼" buttons.

The numeric in the frame is the address. The displayed icons indicate that the units are connected to the selected centralized controller.

The screen can also be printed with the print button.

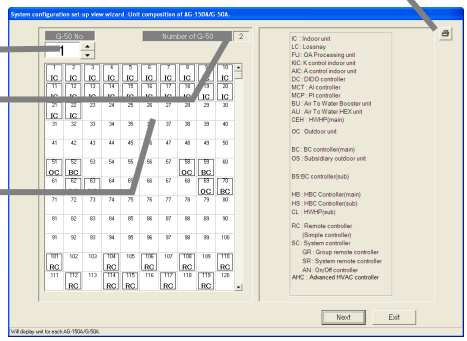
After checking the set contents, click the [Next] button.

Print button
This button will appear when "Connection" is selected in the "Printer connection" setting in "User setting up window 2".

Centralized controller No.

Set centralized controller number

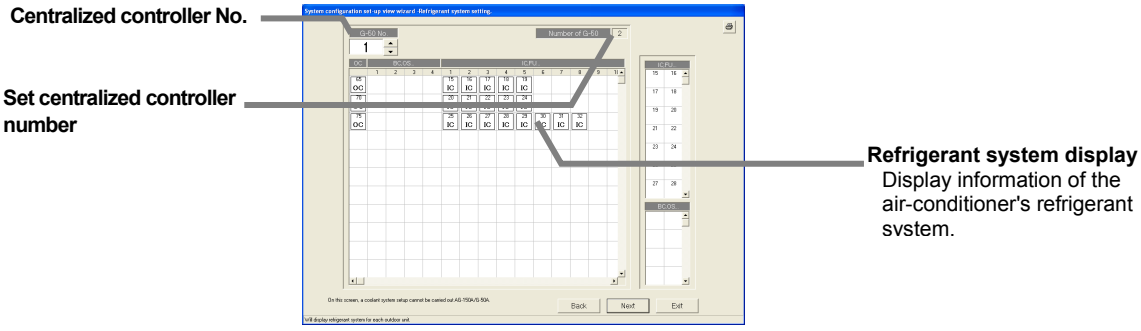
Connected unit display
Display information of the unit connected to the centralized controller.



Icon	Name
IC	Indoor unit
LC	LOSSNAY
FU	OA processing unit
KIC	"K" Control Units
AIC	"A" Control Units
DC	DIDO Controller
MCT	AI controller
MCP	PI controller
BU	Air To Water Booster unit
AU	Air To Water HEX unit
CEH	HWHP (main)
OC	Outdoor unit
BC	BC controller (main)
BS	BC controller (sub)
HB	HBC controller (main)
HS	HBC controller (sub)
OS	Subsidiary outdoor unit
CL	HWHP (sub)
RC	ME remote controller (compact remote controller) / LOSSNAY remote controller
SC	System controller (Including GR, SR, and AN)
GR	Group remote controller
SR	System remote controller
AN	On/Off controller
AHC	Advanced HVAC controller
KA	K-transmission converter
TR	Centralized controller (MJ-103)
G-50	Centralized controller
EC	Expansion Controller (PAC-YG50ECA)

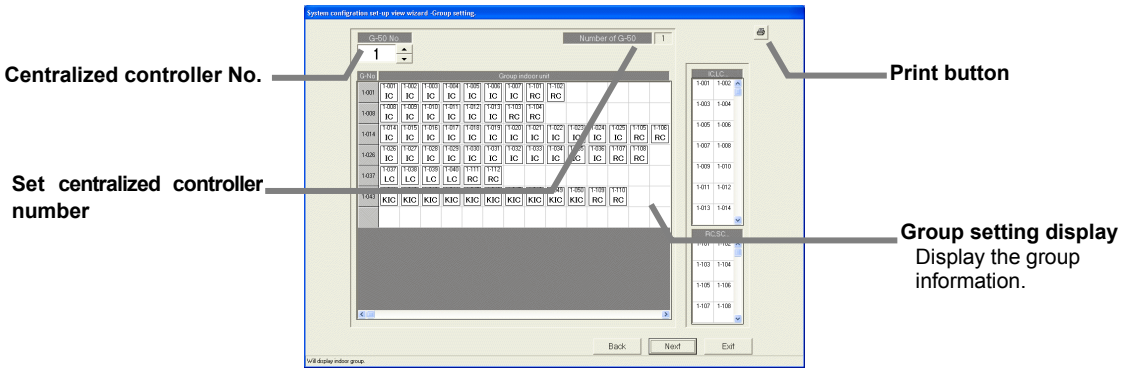
(2) Refrigerant system setting

Display the refrigerant system of each outdoor unit at each centralized controller.
Indicate that units in the same row are connected to the OC at the left-hand side of the screen.
Select the centralized controller to be displayed by clicking the "▲/▼" buttons.
The screen can also be printed with the print button.


Centralized controller No.
Set centralized controller number
Refrigerant system display
Display information of the air-conditioner's refrigerant system.

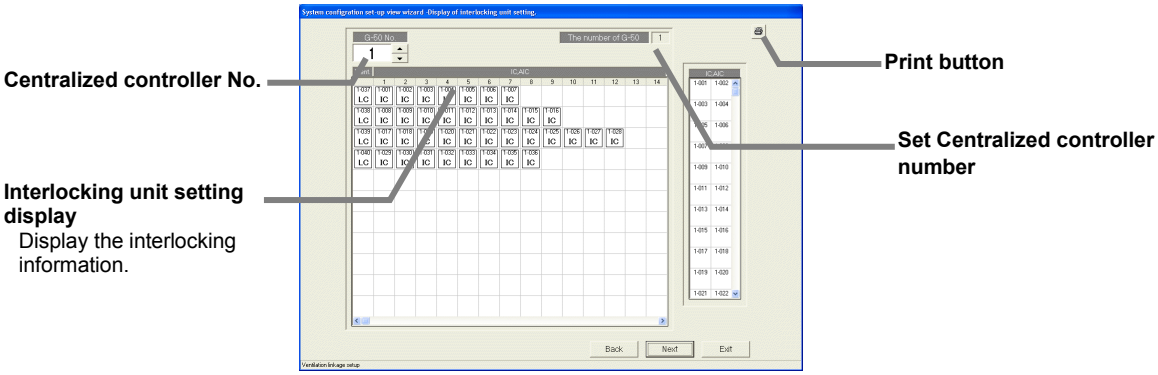
(3) Group setting

Display the group setting of each indoor unit and ventilator on each centralized controller.
Indicate that units on the same group No. row at the left-hand side of the screen are connected to the same group.
Select the display centralized controller by clicking the "▲/▼" buttons.
When the centralized controller is selected using the "▲/▼" buttons next to "G-50 No.", the units of each centralized controller are displayed. The screen can also be printed with the Print button.



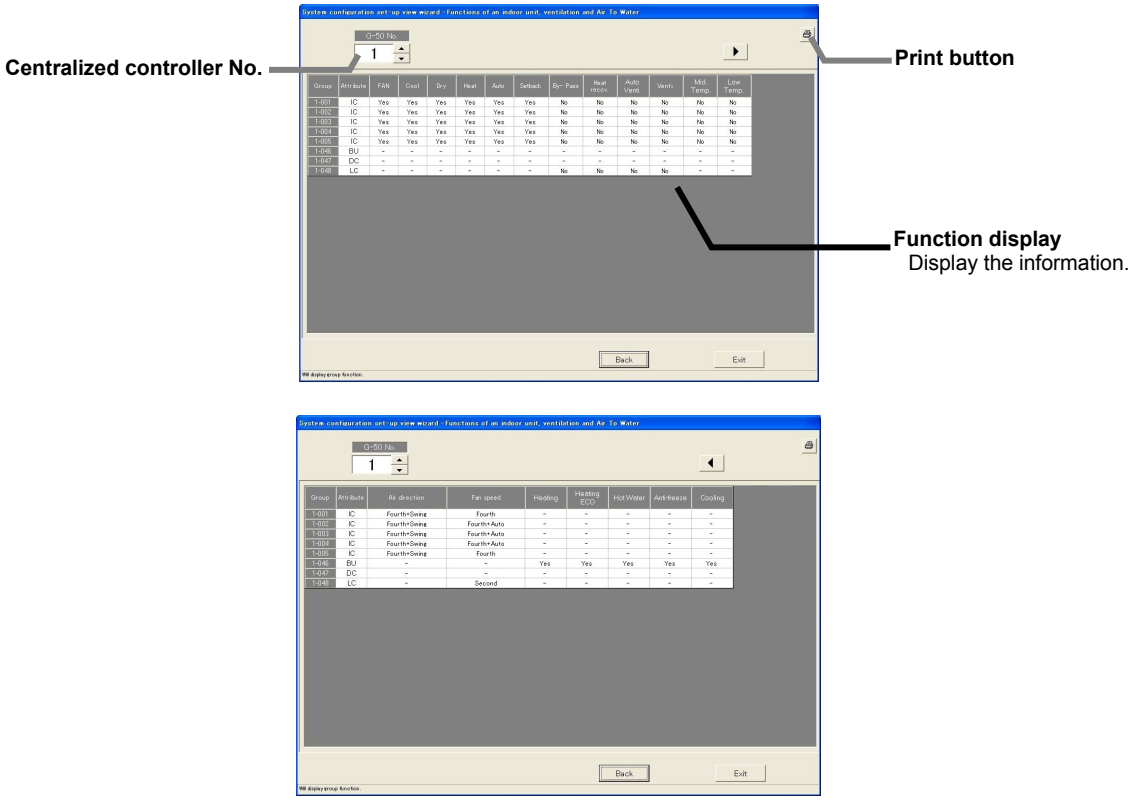
(4) Display of interlocking unit setting

Display the interlocking unit setting for each centralized controller.
It indicates that the indoor unit located on the same row as the ventilation unit No. shown at the left end is set to Interlocking.
Click the "▲/▼" buttons to select the centralized controller to be displayed.
When the "▲/▼" buttons located next to the "G-50 No." is clicked to select the centralized controller, the inter-locking setting is displayed for each centralized controller. The screen can be printed with the Print button.



(5) Display of indoor unit function setting

Display the function setting of each indoor unit and ventilation group for the centralized controller.
Displays Yes/No of each function located on the same row as the group No. shown at the left end.
The functions arranged from left are Attribute, indoor unit operation mode (FAN, Cool, Dry, Heat, Auto, Setback), Ventilation mode (By-pass, heat-recovery ventilation, Auto ventilation), Mid. Temp. , Low Temp. , Air direction, Swing, Fan speed.
On AE-200/AE-50/EB-50/AG-150A/GB-50ADA, the availability of Air To Water (PWFY) group functions will be displayed along with indoor units and ventilation groups.
From the left, the Air To Water (PWFY) group functions will appear in the following order: Heating, Heating ECO, Hot Water, Anti-freeze, and Cooling.
Click the "▲/▼" buttons to select the centralized controller to be displayed.
Click the "▶/◀" button to toggle through the pages.
The screen can be printed with the Print button.



11. 2 Displaying the DIDO, AI and PI controller setting

Pull down menu bar and select [view] and click [DIDO, AI and PI controller setting view].
Current status of DIDO controller (DC), AI controller (MCT), PI controller (MCP) will appear.

NOTE
・In the case of changing the settings of DIDO, AI and PI controller, check the filed adjustment ”8.8 DIDO, AI and PI controller set-up.”

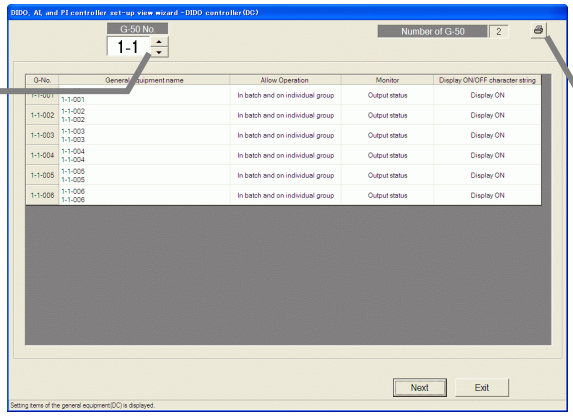
[Next] [Exit] [Back] buttons in each screen means like bellow.

Button	Meaning
Next	Go to the next screen
Exit	Return to the administration screen
Back	Return to the previous screen

(1) Display of DIDO controller (general equipment) setting

Display of centralized controller setting No. and format of general equipment for each centralized controller.
Click the centralized controller to display with the “▲/▼” button.
Registered centralized controller’s general equipment name, operation category, display setting will be appeared.
The screen can be printed with the print button.

Centralized controller select button



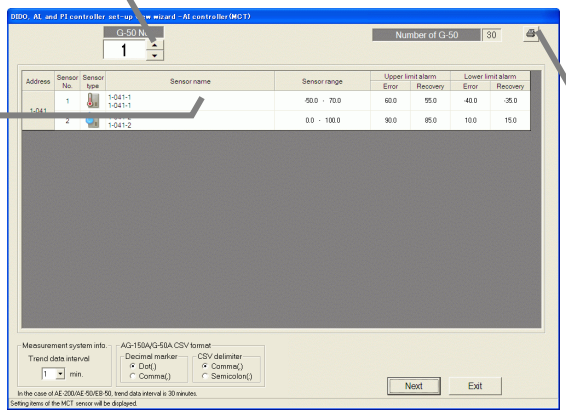
Print out button

(2) Display of AI controller setting

Display of centralized controller setting No. and format of measuring sensor for each centralized controller.
Click the centralized controller to display with the “▲/▼” button.
Registered centralized controller’s measuring sensor type, sensor type, range, upper/lower limit alarm value will be displayed.
The screen can be printed with the print button.

Centralized controller select button

Show the registered measuring sensor



Print out button

(3) Display of PI controller (Measurement meter)setting

Display of centralized controller setting No. and format of measurement for each A centralized controller.

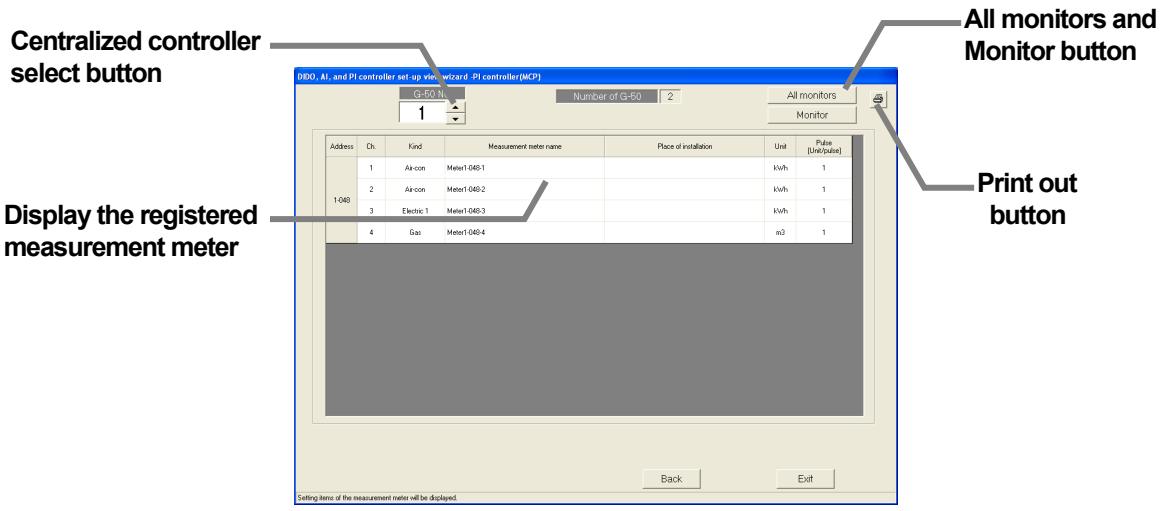
Click the centralized controller to display with the "▲/▼" button.

Registered centralized controller's measurement type, name, placement, and unit, pulse will appear.

Pulse setting of PI controller that is registered to the centralized controller can be monitored with the [All monitor] button for the centralized controller or the [Monitor] button for the selected centralized controller.

(The pulse setting of the PI controller that has not been registered to TG-2000A cannot be monitored.)

The screen can be printed with the print button.



11.3 PLC for General Equipment Setting Display

Click [PLC for general equipment setting view] in the [View] menu (menu bar).
The currently set monitor display settings appear.

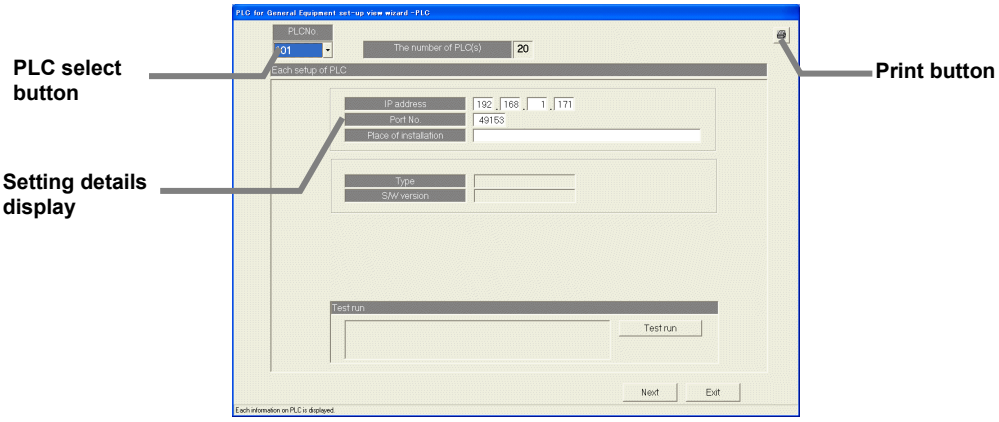
Note:
- Refer to the Site Adjustment manual "8.9 PLC for General Equipment set-up" for details on changing the monitor display settings.
- The details set as the initial setting are displayed.

Operate the buttons [Next], [Exit], and [Back], which are displayed on each screen, as follows.

Item	Details
Next	Advance to the next screen.
Exit	Return to the Management screen.
Back	Return to last screen.

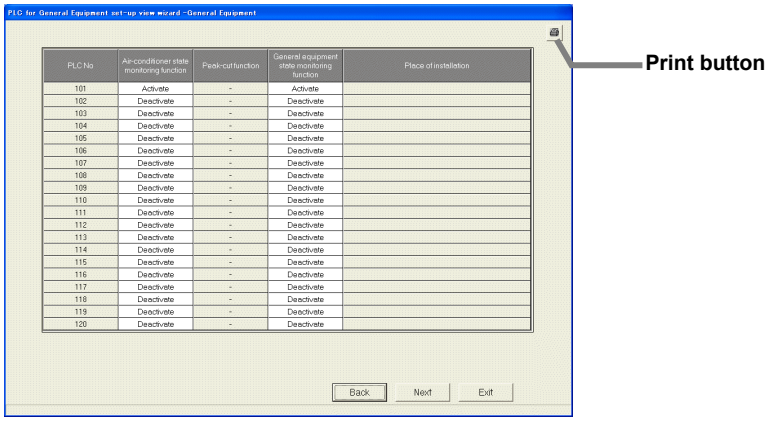
(1) Displaying the PLC settings

Display the IP address information on each PLC for general equipment.
Select the PLC to be displayed by clicking the "▼" button.
The IP address and port No. information for the selected PLC is displayed.
The screen can be printed with the print button.



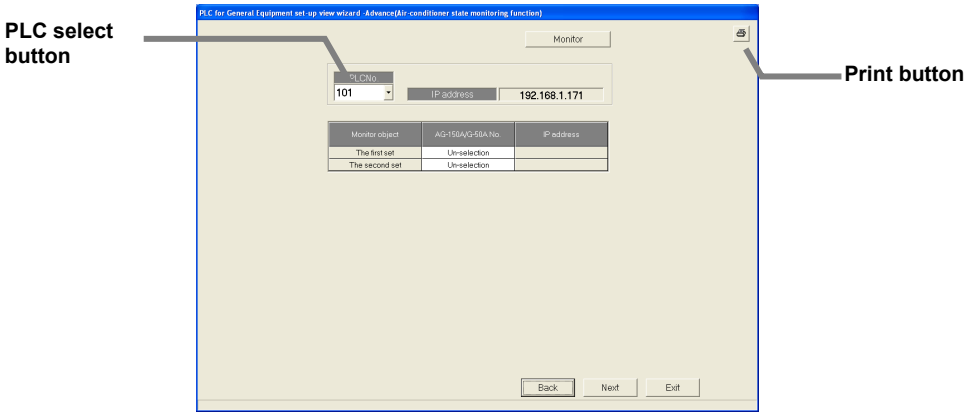
(2) Displaying the function settings

The PLC for general equipment function setting information is displayed.
The screen can be printed by pressing the Print button.



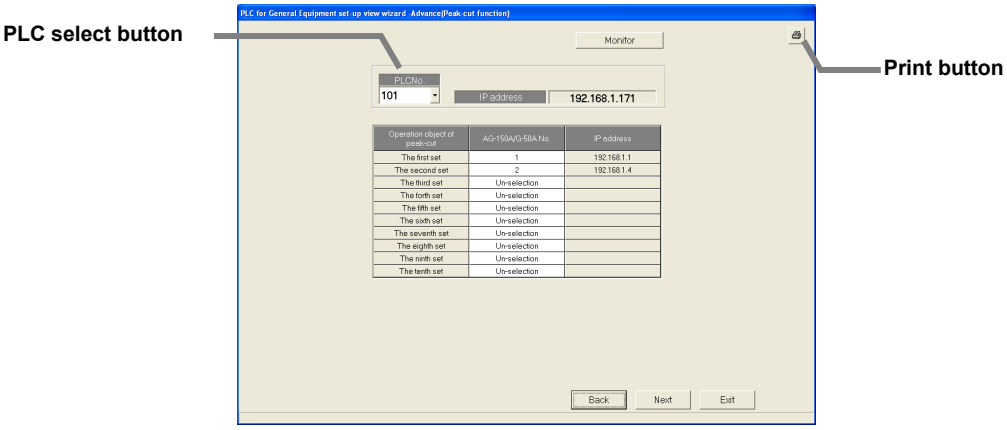
(3) Displaying the advanced settings (air conditioner status monitor setting)

The centralized controller No. to be monitored and the IP address information is displayed for each PLC for general equipment.
Click on the "▼" button to select the PLC to display.
The centralized controller No. to be monitored and the IP address information for the selected PLC will appear.
The screen can be printed by pressing the Print button.



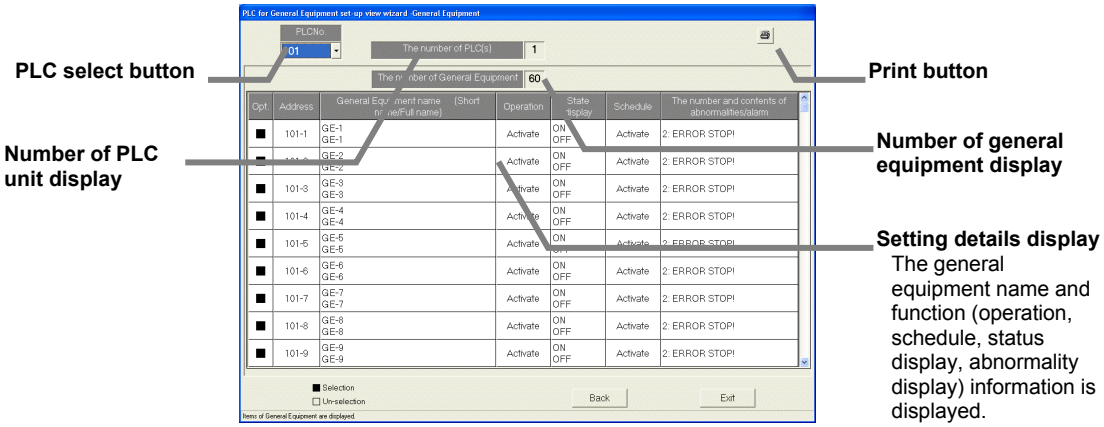
(4) Advance setting (Peak-cut function setting) display

The information of "Centralized controller No." and "IP address" of "operation object of peak-cut" for each PLC for general equipment are displayed.
Click the "▼" button and select a PLC to be displayed.
The information of "**Centralized controller** No." and "IP address" of "operation object of peak-cut" for selected PLC are displayed.
The screen can be printed with the print button.



(5) Displaying the general equipment settings

Display the name and function information of each general equipment for each PLC.
Select the PLC to be displayed by clicking the PLC selection "▼" button.
The screen can be printed with the print button.

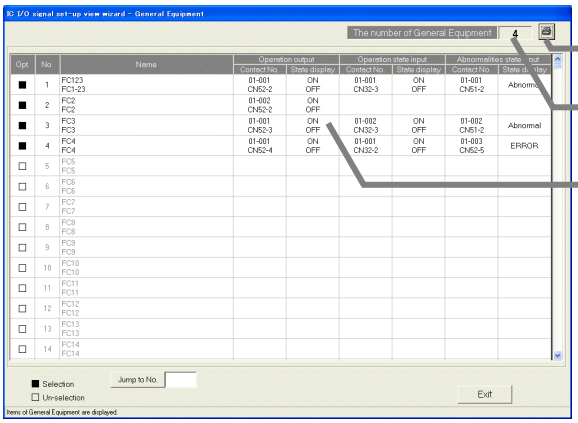


11.4 Displaying the IC I/O Signal Settings

Select [View] – [IC I/O signal set-up" in the menu bar.
The IC I/O signal set-up screen will open.

Note:

- Refer to the Site Adjustment "8.9 IC I/O signal Set-up" for details on changing the IC I/O signal settings.



Print button

Number of general equipment display

Setting details display
The general equipment name, functions (status display, error display), and contact No. information is displayed.

11.5 Display of Monitor Display Setting

Click [Monitoring screen view] in the [View] menu (menu bar).
With the above step, the current monitor display setting contents are displayed.

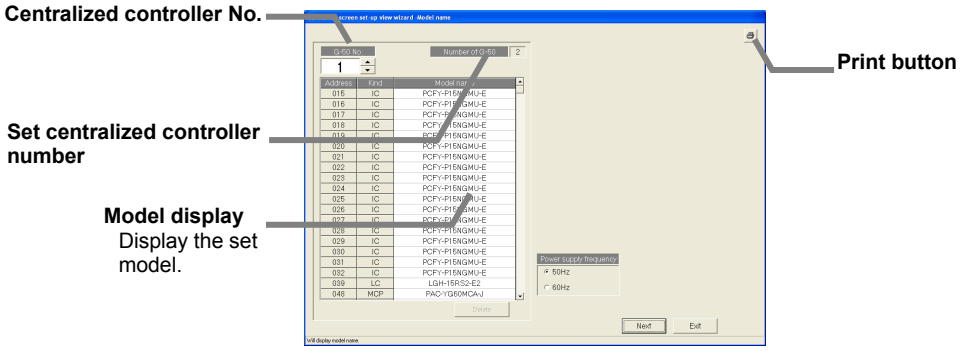
Note:
- For changing the monitor display setting, refer to section “8.11 Monitoring screen setting” in Site adjustment.

Operate the buttons [Next], [Exit], and [Back], which are displayed on each screen, as follows.

Item	Details
Next	Advance to the next screen.
Exit	Return to the Management screen.
Back	Return to last screen.

(1) Model name

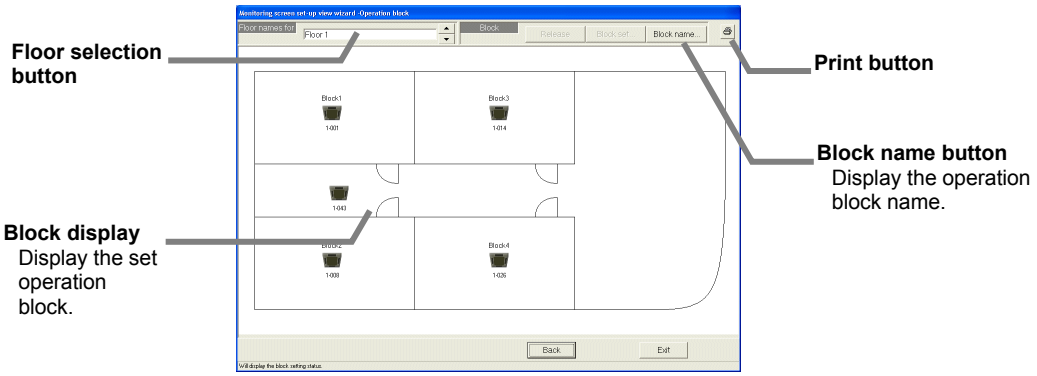
Display the outdoor unit, indoor unit, and ventilation unit model set data for each centralized controller.
Select the centralized controller to be displayed by clicking the “▲/▼” buttons.
The numeric in the frame is the address. The displayed icons indicate that the units are connected to the selected centralized controller.
The screen can also be printed with the print button.



Note:
- Display the contents set at the initial setting.

(2) Operation block

Display the block setting status of each indoor unit group at each floor. Block No. is displayed at each block set group.
Select the floor to be displayed by clicking the “▲/▼” buttons next to the floor name.
This screen can also be printed with the Print button.



Note:
- When the “Block name” button is clicked, the set block name can be checked.

11.6 Watt Hour Meter/Meter Setting Display

Select “Watt Hour Meter set-up view” and “Meter set-up view” in the “View” menu bar.
The meter setting screen is displayed.

Note:
- When changing meter setting, refer to Site Adjustment manual section “8.12 or 8.13 Meter Set-up”.

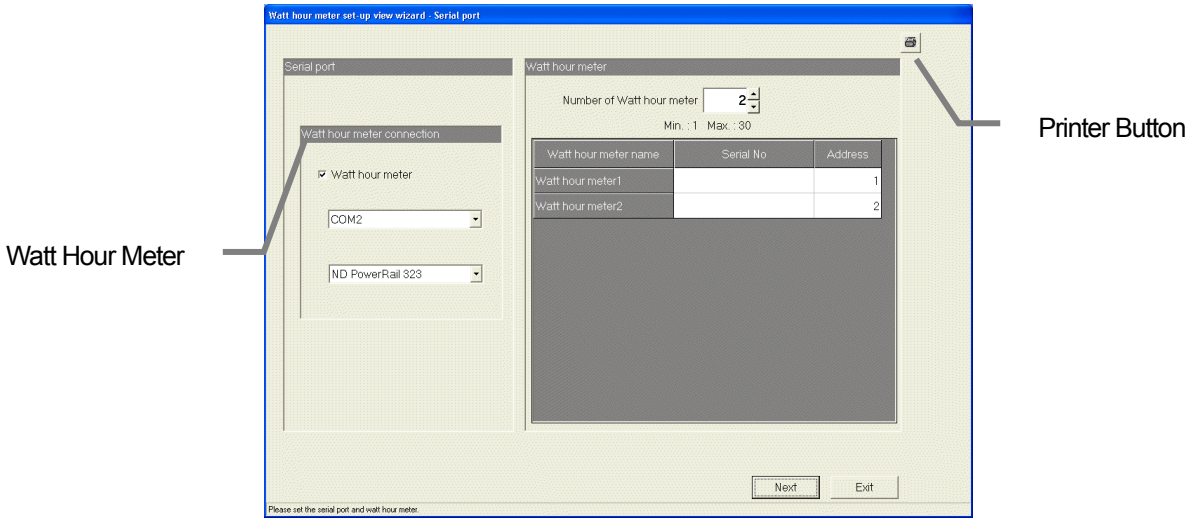
Operate the buttons [Next], [Exit], and [Back], which are displayed on each screen, as follows.

Item	Details
Next	Advance to the next screen.
Exit	Return to the Management screen.
Back	Return to last screen.

[Using the RS-485 WHM]

(1) WHM model No. and number used

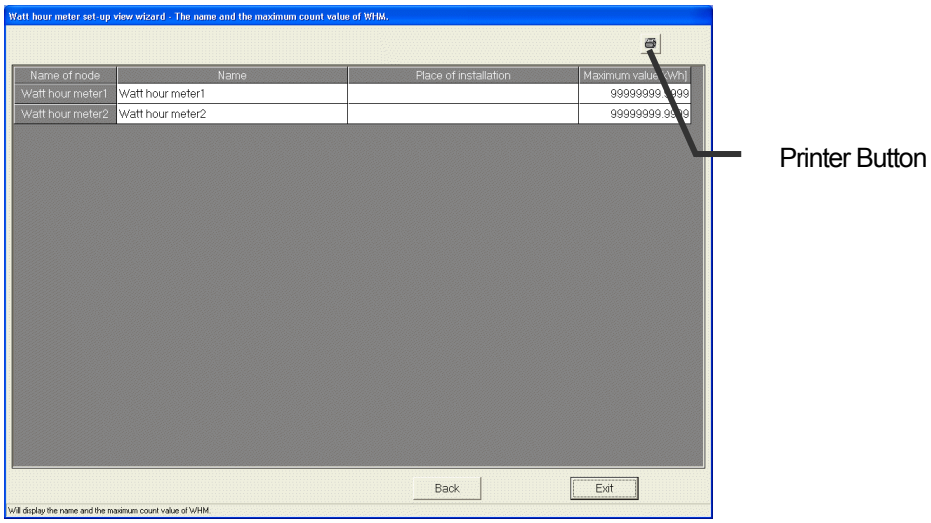
Display the WHM model No. and number of WHM used.
This screen can also be printed with the Print button.
After checking the contents, click the [Next] button.



WHM model No. and number used screen

(2) WHM name, location, and maximum count value

Display the WHM name, location, and maximum count value setting status.
This screen can also be printed with the Print button.
After checking the contents, click the [Exit] button.

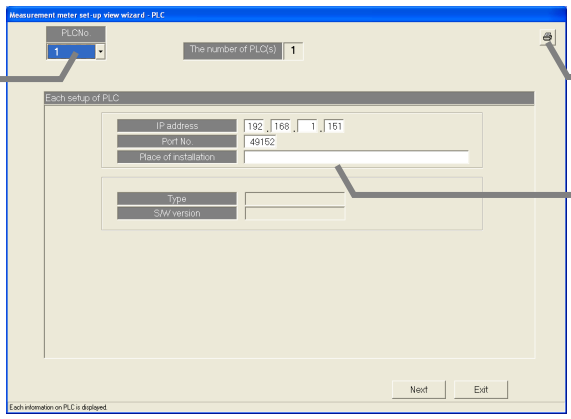

Watt hour meter set-up view wizard - The name and the maximum count value of WHM.
Name of node
Name
Place of installation
Maximum value [Wh]
Watt hour meter1
Watt hour meter1
Watt hour meter2
Watt hour meter2
Back
Exit
Will display the name and the maximum count value of WHM.
Printer Button

WHM name, location, and maximum count value screen

[Using the PLC WHM]

(1) PLC setting display

Display the number of connected PLCs and the IP addresses.
The screen can be printed with the print button.



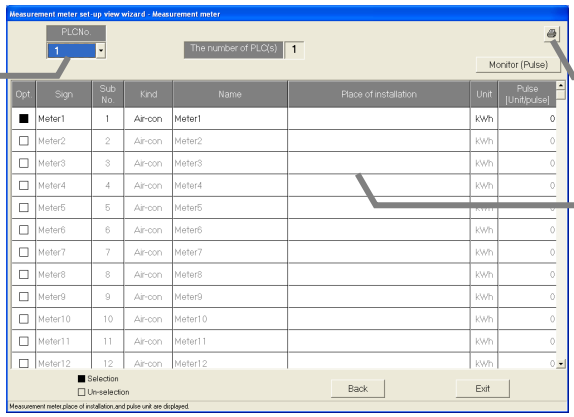
PLC select button

Print button

Setting details display
Displays the PLC IP address and port No.

(2) Number of meters, name, place and pulse unit (weight) display

Display the number of meters (WHM), name, place and pulse unit setting state.
The screen can be printed with the print button.



PLC select button

Print button

Setting details display
Display the meter (WHM) service terminal, name, place and pulse unit, etc.

11.7 Charge System Display

Select “Energy monitoring view” in the “View” menu bar

The charge system screen is displayed.

Note:

- When changing the charge system, refer to Site Adjustment manual section “8.14 Energy monitoring Set-up”
- Some charge system display screens may not be displayed, depending on the setting mode.
- The charge setting can be checked or changed with “Charge set” on the “Energy monitoring” screen.

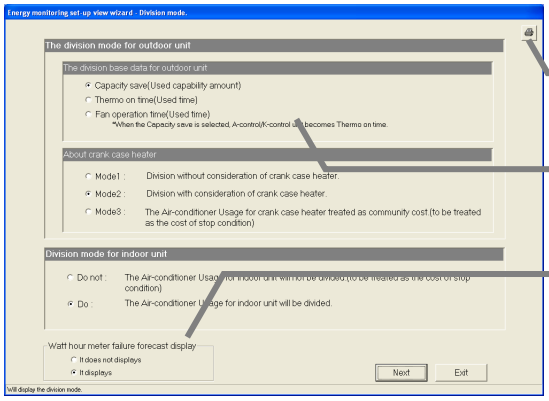
Operate the buttons [Next], [Exit], and [Back], which are displayed on each screen, as follows.

Item	Details
Next	Advance to the next screen.
Exit	Return to the Management screen.
Back	Return to last screen.

(1) Division mode

Display the division mode setting state.

This screen can also be printed with the Print button.


Energy monitoring set-up view wizard - Division mode.
The division mode for outdoor unit
The division base data for outdoor unit
Capacity save(Used capability amount)
Thermo on time(Used time)
Fan operation time(Used time)
About crank case heater
Mode1 : Division without consideration of crank case heater.
Mode2 : Division with consideration of crank case heater.
Mode3 : The Air-conditioner Usage for crank case heater treated as community cost (to be treated as the cost of stop condition)
Division mode for indoor unit
Do not :
Do :
The Air-conditioner Usage for indoor unit will be divided.
Watt hour meter failure forecast display
It does not displays
It displays
Next
Exit
Will display the division mode.

Print button

Setting details display
Display the division mode setting information.

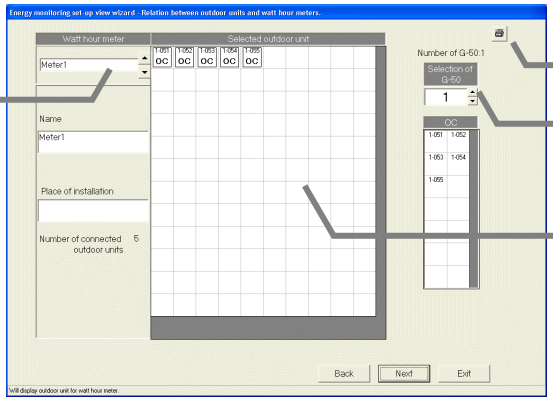
Electric amount fault prediction setting display
Display the electric amount fault prediction setting information..

(2) Relation between outdoor units and watt hour meters

Select the watt-hour meter by clicking the “▲/▼” buttons.

The data for the outdoor unit connected to the watt-hour meter is displayed.

This screen can also be printed with the Print button.



Watt-hour meter

Print button

Centralized controller No.

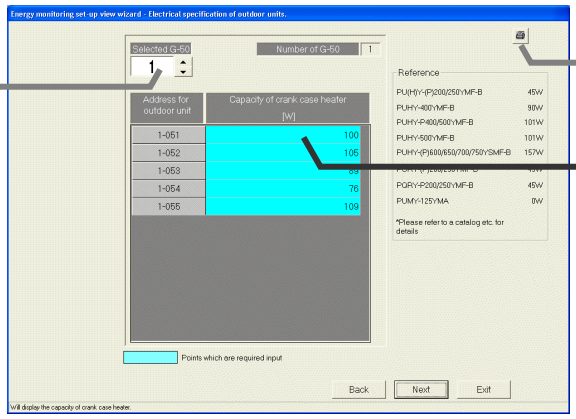
Setting details display
Display the outdoor unit connected to the WHM.

Note:

- This display shows the contents set by charge system.

(3) Electrical specification of outdoor units

Select the centralized controller to be displayed by clicking the "▲/▼" buttons.
The outdoor unit crankcase heater set data is displayed.
This screen can also be printed with the Print button.



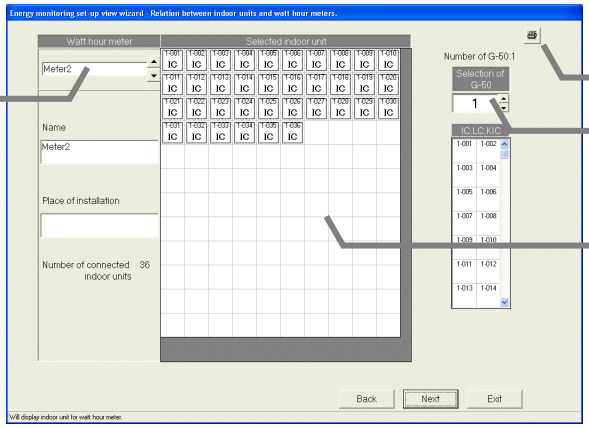
Centralized controller No.

Print button

Setting details display
Display the set outdoor unit's crankcase heater capacity.

(4) Relation between indoor units and watt hour meters

Select the watt-hour meter by clicking the "▲/▼" buttons.
The data for the indoor unit connected to the watt-hour meter is displayed.
This screen can also be printed with the Print button.



Watt-hour meter

Print button

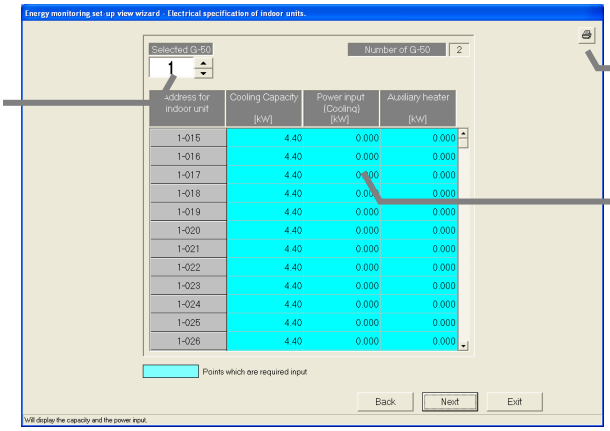
Centralized controller No.

Setting details display
Display the indoor unit connected to the WHM.

Note:
- This display shows the contents set by charge system.

(5) Electrical specification of indoor units

Select the centralized controller to be displayed by clicking the "▲/▼" buttons.
The setting information on the operation capacity of the indoor unit and power input is displayed.
This screen can also be printed with the Print button.



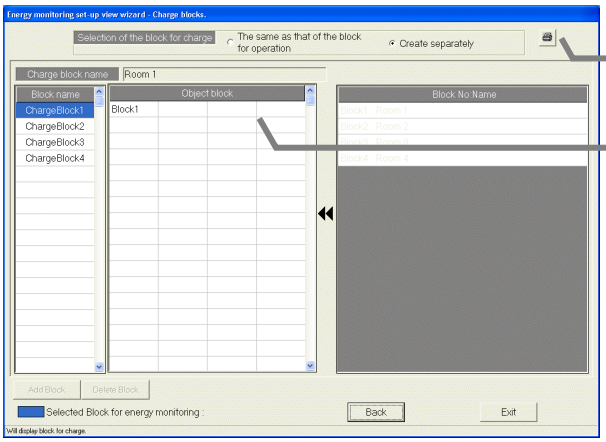
Centralized controller No.

Print button

Setting details display
Display the indoor unit's set capacity and power input.

(6) Charging blocks

Display the charging block setting data. Charging block consists of operation blocks.
This screen can also be printed with the Print button.



Print button

Setting details display
Display the charging block setting information.

Note:

- The basic charge, charge setting, and currency setting can be checked or changed with “Charge set” on the “Energy monitoring” screen.

11.8 Energy Saving Setting Display

Select [View] - [Energy saving setting] in the menu bar.
The energy saving setting screen will open.

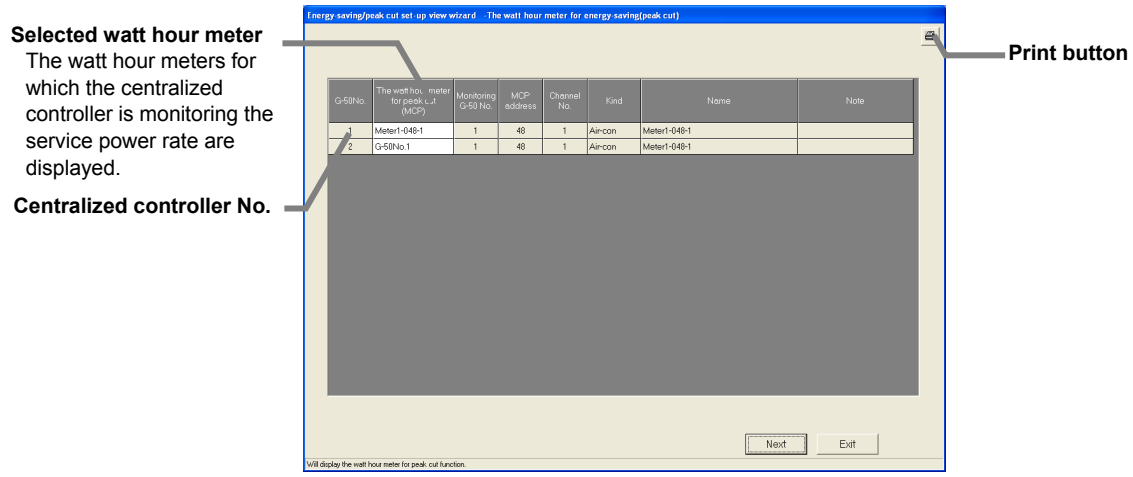
Note:
- Refer to the Site Adjustment "8.17 Energy saving setting" for details on changing the energy saving settings.
- Some energy saving setting screens may not appear depending on the selected functions.

Operate the buttons [Next], [End], and [Back], which are displayed on each screen, as follows.

Item	Details
Next	Open the next screen.
End	Return to the Management screen.
Back	Return to the previous screen.

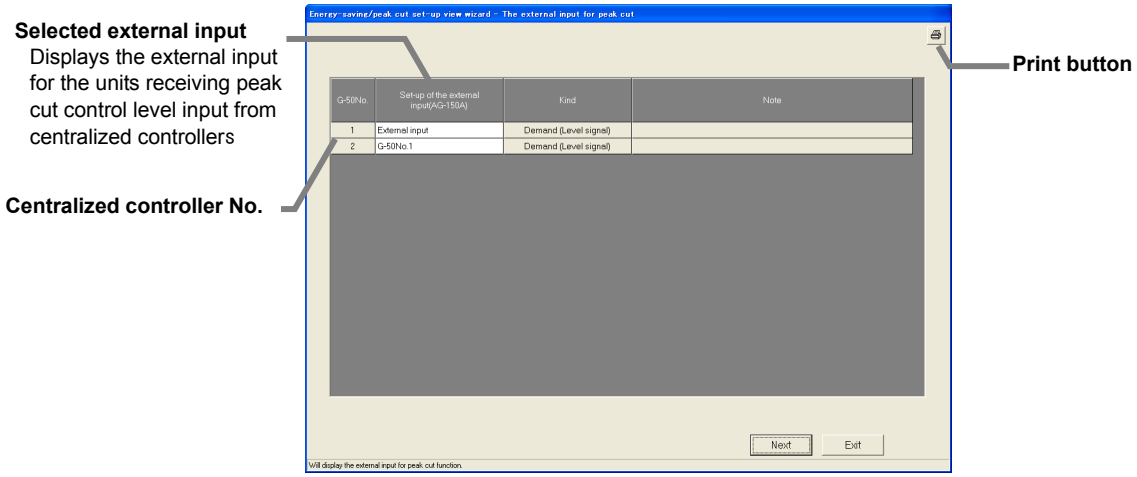
(1) Displaying the service watt hour meter settings (Display only WHM connection settings)

The watt hour meters for which the centralized controller is monitoring the service power rate are displayed.
The screen can be printed by pressing the Print button.



(2) External input display (shows only external input settings)

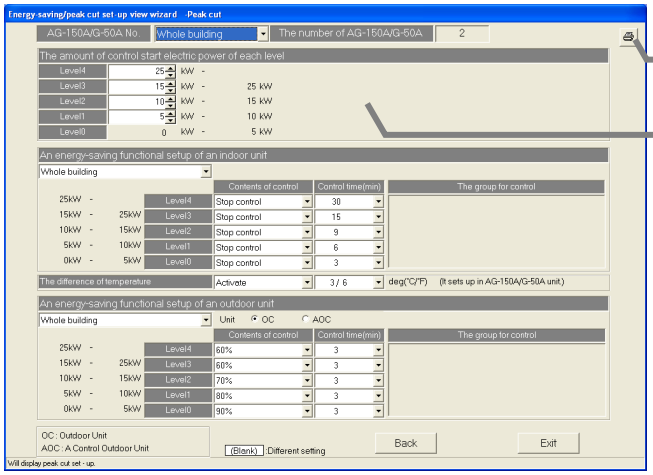
Displays the external input for the units receiving peak cut control level input from centralized controllers.
The screen can be printed by pressing the Print button.


Selected external input
Displays the external input for the units receiving peak cut control level input from centralized controllers
Centralized controller No.
Print button
Energy saving/peak cut set-up view wizard - The external input for peak cut
G-50No.
Set-up of the external input(AG-150A)
Kind
Note
External input
Demand (Level signal)
G-50No.1
Next
Exit
Will display the external input for peak cut function.

(3) Displaying the energy saving/peak cut set-up

The energy saving control or peak cut control details are displayed. The screen is the peak cut control setting screen.

The screen can be printed by pressing the Print button.



Print button

Setting details display
Display the control details setting state.

Note:

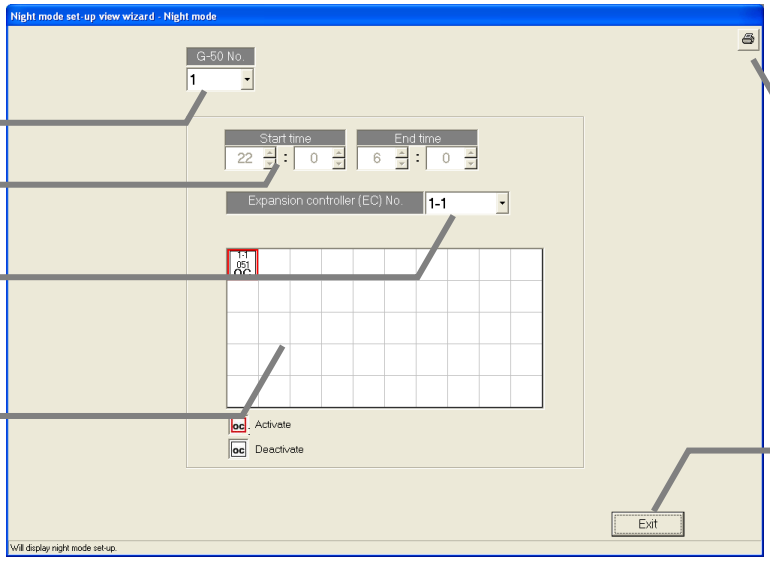
- For the "energy saving control" function, only the lowest level 0 of the indoor unit and outdoor unit's energy saving function settings are displayed.

11.9 Night Mode Set-up Display

Select [View] - [Night mode set-up] in the menu bar.
The Night mode screen will open.

Note:
- Refer to the Site Adjustment "8.18 Night mode set-up" for details on Night mode set-up.

The state of the night mode set for each centralized controller outdoor unit.
The screen can be printed by pressing the Print button.



Centralized controller No.

Night mode interval setting
Display the time (hours) that night mode is activated.

Expansion controller (EC) select button
(Selectable for an AG-150A with an expansion controller connected)

Night mode target display
Display the outdoor unit for which the night mode is set.
Red box : Activated
Blue box: Deactivated

Print button

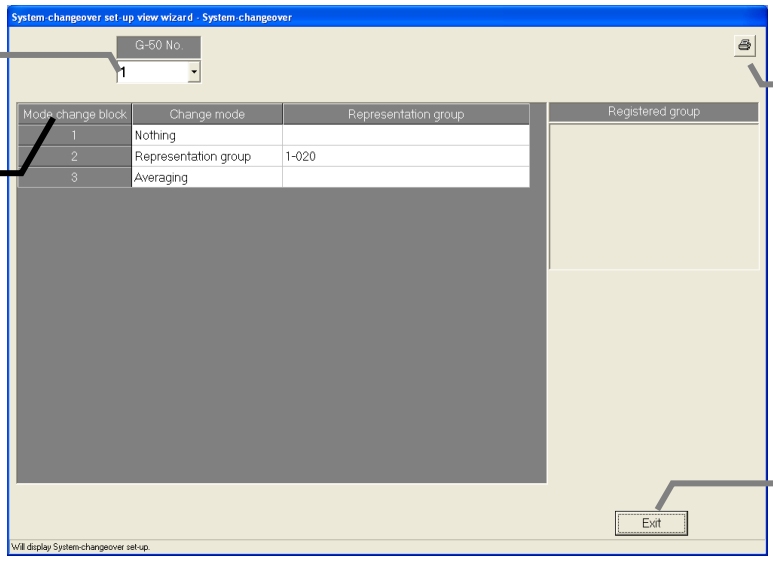
Exit button

11.10 System-changeover Set-up Display

Select [View] - [System-changeover set-up] in the menu bar.
The System-changeover set-up screen will open.

Note:
- Refer to the Site Adjustment "8.17 System-changeover set-up" for details on System-changeover set-up.

The status of the System-changeover setting in each centralized controller is displayed.
The screen can be printed by pressing the Print button.



Centralized controller No.

Display of set details
The mode and target set for each centralized controller are displayed.

Print button

Exit button

11.11 Others Set-up Display

Select [View] - [Others set-up] in the menu bar.
The others set-up screen will open.
Others set-up: External temperature interlock control
Night setback control setting

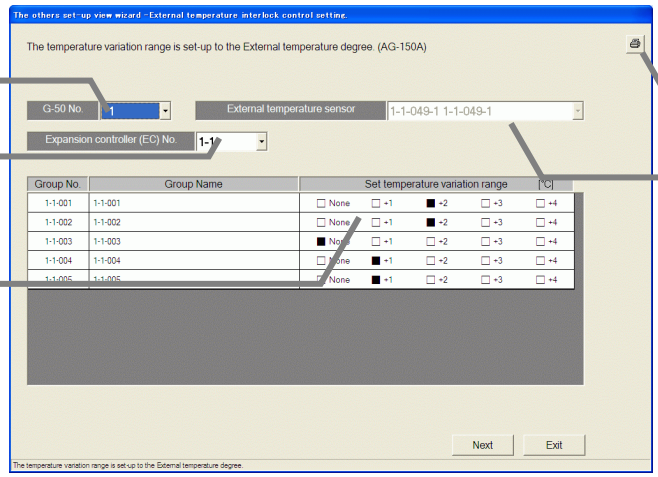
Note:
- Refer to the Site Adjustment "8.20 Others set-up" for details on Others set-up.

Operate the buttons [Next], [End], and [Back], which are displayed on each screen, as follows.

Item	Details
Next	Open the next screen.
End	Return to the Management screen.
Back	Return to the previous screen.

(1) Displaying the External temperature interlock control

The status of the External temperature interlock control in each centralized controller is displayed.
The screen can be printed by pressing the Print button.


The others set-up view wizard - External temperature interlock control setting.
The temperature variation range is set-up to the External temperature degree. (AG-150A)
G-50 No.
External temperature sensor
Expansion controller (EC) No.
Group No.
Group Name
Set temperature variation range [°C]
Next
Exit

Centralized controller No.

Expansion controller (EC) select button
(Selectable for an AG-150A with an expansion controller connected)

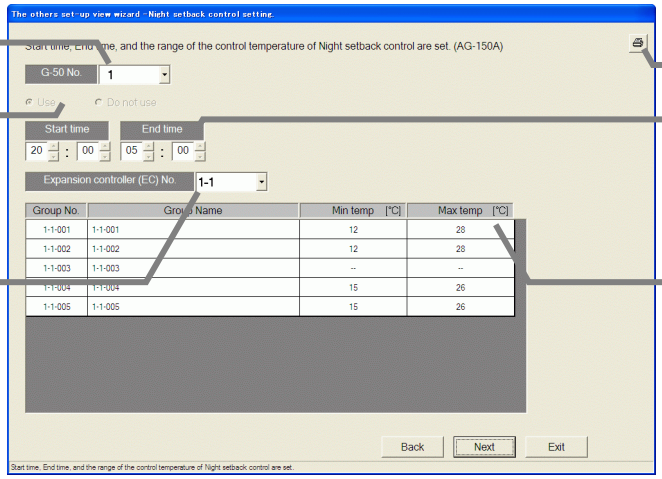
Set temperature variation range

Print button

External temperature sensor

(2) Displaying the Night setback control setting

The status of the Night setback control setting in each centralized controller is displayed.
The screen can be printed by pressing the Print button.



Centralized controller No.

Use / Do not use
Display the setting status of Night setback control.

Expansion controller (EC) select button
(Selectable for an AG-150A with an expansion controller connected)

Print button

Start time / End time
Display the time period for Night setback control.

Min temp. / Max temp.
Display the set Min. temperature and Max. temperature for Night setback control.

12. Help

12.1 Contents

Click “Contents” in the “Help” menu (menu bar).

The following manuals are accessible from the Help menu. Adobe® Reader® is required to read these manuals. (Version 10 or later recommended)

Manuals PDF	Normal Startup		Startup in the Wide Area Mode	
	System Screen	Management Screen	System Screen	Management Screen
Management	V	V	V	V
Site Adjustment	V		V	
Wide Area			V	V

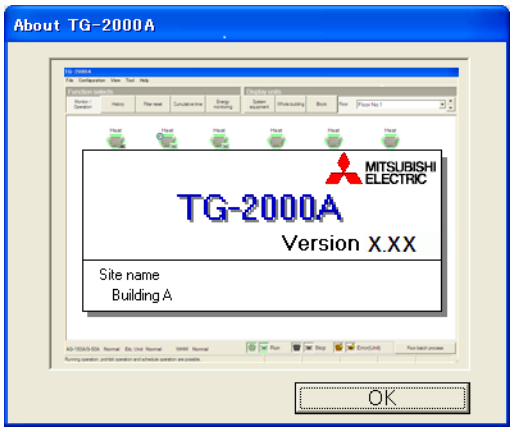
V : Viewable

12.2 Version Information

Click “Version” in the “Help” menu (menu bar).

The version information is displayed.

Display the version of this software and the user set building name.



13. System Operation Precautions

The following describes the precautions to be taken when operating the system. Always read this section before using the system. Also, read Section 2.3 Items to Check before Starting Operation.

13.1 Usage Right

Mitsubishi Electric Corporation and its suppliers are not responsible for incidental, secondary, or special damage to the user even if notified of the possibility of that type of damage by the seller. Mitsubishi Electric is not responsible for any rights claimed by a third-party.

13.2 Operation and Setting Precautions

(1) Change of system configuration, monitoring screen setting, and energy monitoring setting

- When the charge function is used, be sure to reset the system before changing the system configuration, monitoring screen setting, and energy monitoring setting.
- When the system configuration setting or monitoring screen setting is changed, change or check the energy monitoring setting at the same time.

(2) Change of meter setting (PI controller setting), energy monitoring setting, charge setting

- In the following cases, always settle the account before changing the settings.
  When changing the meter settings (PI controller setting), energy monitoring settings and charge settings.
  Check the following settings after making changes.
  Meter settings, energy monitoring settings and charge settings.

(3) Time setting

- Do not change the time setting except during test operation. When the charge function is used, the air-conditioning charge is affected.
  Do not attempt to change the date in particular during operation.
- When using the charge function, there are times when the time cannot be changed. Do not attempt to change the time for the web browser operation.
- While this integrated centralized control software TG-2000A is running, do not use Windows "Date and time properties".
- It is recommended to adjust the time with the Maintenance password periodically. (Adjust the time between 8:00 and 21:45.) Especially when charge function, peak cut function or schedule function is used, it is recommended to adjust the time every month. The time depends on the accuracy of the PC and the centralized controller's clocks. The error in the centralized controller and Expansion controller (EC) clock is 60 sec./month (typ.).
  * Refer to section 6.3 (2) "Shift from the control window to the initial window" and 8.21 "Time Set-up" in the Operation Manual (Site adjustment) for how to adjust the time.

(4) Energy saving and peak cut settings

- Mitsubishi will not be held liable for any damage that occurs from use of the peak cut settings.
- Peak cut control may not be carried out correctly if the centralized controller and Expansion controller (EC) fails or is disconnected, etc. Mitsubishi will not be held liable for damage arising from these cases.
- Adjust the energy saving and peak cut control details according to the working environment and requirements.

(5) Operation and monitor of the general equipment

- There may be cases when the general equipment cannot be monitored or operated due to a disconnection in the wiring with the general equipment or a fault in the PLC (or DIDO controller). Mitsubishi will not be held liable in the event of any damage.

(6) Set temperature range limit

- When this setting is made with TG-2000A, the operation and the change must be made with TG-2000A.
  (The change that is made with ME remote controller, PAR-F27MEA cannot be reflected.)
- When there is a blackout, the power is reset, the centralized controller is turned off or the centralized controller is malfunctioning, the set temperature range limit of ME simple remote controller, PAC-SE51CRA-F will be removed.
- Refer to section 6.4 Operation Details for the types of remote controllers that support the "set temperature range limit" function.

13.3 Air-conditioning Charge Precautions

(1) Using the charge function

- When using this program's charge function, we recommend that you consent to "Collect air-conditioning charges (including temporary action when failure occurs) by proportional division calculation considered by operation status." by individual contract with the building owner.

The air-conditioning cost calculation method use by this integrated centralized control software TG-2000A is the Mitsubishi proprietary general electric power apportioning method.
Depending on each country's laws and regulations, etc., there may be cases these measured charges cannot be used for certificate of transaction.
Use electricity certified watt-hour meters.
When the billing method to be used must meet the requirements of any applicable measurement laws, instead using the apportioned billing function on TG-2000A, install a certified watt-hour meter on each air conditioning unit to measure the electricity usage of each unit.
Before starting use, the building owner and building tenant should bind an agreement or contract indicating that the air conditioning charges are part of the usage fees with an independent contract indicating "The air conditioning charges are collected with an apportioning method that considers the air conditioner's operation state instead of charges according to the measured power rate (including during emergency operation when a failure occurs)".

*The gas or other meters counts the value with pulse conversion. The measured charges cannot be used for certificate of transaction.

Please be forewarned that the collection is based on the pulse conversion and included the temporary response for trouble.

- UPS equipment is recommended to prevent TG-2000A stoppage and data loss, etc. when a power failure or momentary interruption occurs.
- Storing the air-conditioning charge result (block and watt hour meter units) to a device than this computer is recommended.
  (For example, print the air-conditioning charge results on paper and store them.)
- We recommend that the database backup function be used.
  * Refer to Site Adjustment manual section 8.3.3.
- It is necessary to register the charge license with all centralized controllers registered in this integrated centralized control software TG-2000A system. Note that the charge function will not operate properly even if the charge license is registered only to a part of the centralized controller.
- While this function is being used, do not turn off the main power of the air conditioning units. Doing so may affect the apportioned charge calculation.
- The meter (watt hour meter, gas meter, etc.) performance and accuracy relay on the meter. Mitsubishi will not be held liable in any case. Make sure that the pulses output from the meters are not incorrectly detected.
  This TG-2000A charge function has the "always connected to AG-150A/G50A system" state and the "connect when needed" state.
  When "always connected to AG-150A/G-50A system" is selected <recommended mode>
  The power apportion data is collected from the centralized controller and PLC (PI controller) and the apportionment is calculated once a day, and the previous month is automatically settled on the day following the settlement day. Thus, the TG-2000A must be run 24 hours.
  When "connect when needed" is selected
  The power apportion data is collected from the centralized controller and PLC, the apportionment is calculated, and the last month is settled at once automatically when the TG-2000A is started up on the day after the settlement day. (This can also be completed manually.)
  Note that the centralized controller and PLC (PI controller) connect data even while the TG-2000A is stopped, so the centralized controller and PLC (PI controller) must be run 24 hours.
  If the TG-2000A is stopped, there may be cases when the charging data cannot be collected if the state is abnormal, such as if the centralized controller or PLC (PI controller) is faulty or stopped. The centralized controller and PLC (PI controller) faults cannot be detected if the TG-2000A is not running.

(2) Air-conditioning charge calculation (proportional division)

- This is our original method that calculates the total electricity consumption by checking the operating status of the air conditioners. This function supports apportioned electricity charge.
  The following precautions are required.
  1) This system calculates the apportioned electricity power for air conditioners. **The measured charges cannot be used for certificate of transaction.**
  2) This system cannot be used for applications requiring calculations made by installing a watt hour meter on each air conditioner.
  3) A watt hour meter is not installed on each air conditioner's power supply section to calculate the rate.
  4) Even if the air conditioner is run for the same length of time, the air conditioning charges may differ according to the air conditioner's operation load state.
  5) When multiple outdoor units are connected to one watt hour meter, they will be apportioned and calculated as one outdoor unit. Thus, an error may occur more easily than when a watt hour meter is installed for each outdoor unit.
  6) The air conditioner is energized even when stop, so the air conditioning charges are calculated even if the air conditioner is not used.
  7) If a fault occurs in the computer, the centralized controller or PLC (PI controller), remedial measures will be taken with the past average apportioned rate, etc.
  8) Watt hour, gas, or other meters are installed as pulse. Since the performance and accuracy depend on those meters, we do not take any responsibility.
- When a system abnormality occurs, postpone proportional division calculation to the next day or do not perform proportional division calculation. When you want to correct the proportional division data, use the Charge data maintenance or Remedial apportioning function.
- Since the air-conditioning charge is calculated in block or watt hour meter units, indoor units that are not registered in the charge block are not reflected in the air-conditioning charge.
- There is an error due to the digits not displayed in the air-conditioning charge calculation results.
- The apportioned charges will be incorrect when the PLC (PI controller), the centralized controller or watt hour meter fails or is replaced.
  In this case, use the "charge data maintenance", "remedial apportioning" or "charge comparison data maintenance" function according to the trouble, and recover the state.
- When WHM replacement accompanied WHM trouble, the air-conditioning charge becomes an abnormal charge proportional division value. In this case, use the “Maintenance of change data” or “Remedial apportioning setting” function.
- The charge proportion is displayed by rounding the un-displayed digit. The charge proportion total is given by totaling the charge proportion (rounded) of each charge block, and may be a number other than 100% in some cases.
  (When the charge proportion total is not 100%, it is recommended to use the proportion (to find the air-conditioning charge for each charge block) to the charge proportion/charge proportion total of the corresponding charge block.)
  Due to limits in the display, less than 100 blocks should be used for power apportioning (manual power rate input). *Until TG-2000A Ver.4.5*
- To exclude certain units from charge apportioning, set the capacity of each unit to [0kW].

(3) System change

- When changing the system configuration and charge system settings, carry out settlement of accounts from the day after the settlement of accounts day up to yesterday. For settlement of accounts for the current month, total and use the air-conditioning charge calculated before and after the change. Add the basic charge because the calculated air-conditioning charge total does not include the basic charge.

(4) “Maintenance of change data” and “Remedial apportioning setting” functions

- When an abnormality occurred in air-conditioning charge proportional apportioning, it can be remedied with the “Maintenance of change data” or “Remedial apportioning setting” function. Refer to the Site Adjustment manual for a description of the method.
- When a WHM trouble or other abnormality occurred with this charge function, it is recommended that the agreement of the owner and tenant be obtained to use the “Maintenance of change data” or “Remedial apportioning setting” function to deal with the trouble.

13.4 Others

(1) After a power failure

- When the power is restored after a power failure, the PC will not automatically restart and must be restarted manually.

(2) Windows (task bar)

- Do not use the Windows task bar during TG-2000A operation.

(3) Printer output

- When using this system with a printer, always turn on the printer power and replenish the paper so that printing can be performed. When printing is not possible, a “Cannot print” message is displayed.

(4) Operation processing

- When multiple processes and control overlap, operation may be delayed.
- The air-conditioner's operation is periodically monitored. There may be a time lag until the monitored details are reflected on this man-machine.

(5) TG-2000A operation

- Each system allows the connection of only one TG-2000A (including Standard mode and Wide area mode).
- Either "Activate" or "Deactivate" can be selected for "always connected to AG-150A/G-50A system" of the TG-2000A.
- When "Activate" is selected, the following functions are carried out automatically. When "Deactivate" is selected, these are carried out semi-automatically.
  - Power apportioning data collection
  - Apportioning, settlement calculation process
  - Automatic output of settlement results
- The functions that run in the "always connected to AG-150A/G50A system" state can be used in "Activate" state, but cannot be used in the "Deactivate" state. These functions will not operate when the system is stopped.
  - Trend functions (temperature, on/off, mode, power amount, humidity)
  - Peak cut functions (only peak cut operation history functions)
- Set the TG-2000A to the "Deactivate" state when using the following functions.
  - Summer time ----- From the day prior to and after shifting to and from summer time
  - Seasonal period --- From the day prior to and after shifting between normal and seasonal power apportioning.
- The centralized controller, PLC (PI controller) and etc. errors cannot be detected while the TG-2000A is stopped.
  If the centralized controller, PLC, PI controller, DIDO controller or AI controller is faulty, stopped or the power is OFF, the data required for charging will not be collected, and schedule operation of the air conditioner or general equipment will not be possible. Periodically confirm that the operation is correctly, and that no abnormalities are occurring.
- When "Activate" is selected, leave the computer power ON so that the integrated centralized control software TG-2000A program runs 24 hours. (to prevent the program from stopping, do not use the "System standby" or "System halt state" power supply optional functions.)
- The integrated centralized control software TG-2000A program runs for 24 hours, so always leave the computer's power ON.
- The output file may not be output automatically at the output time by Energy monitoring function or Trend function etc. when TG-2000A is stopped or for any other reason. In this case, output the file manually from the output screen of each function.
  Mitsubishi Electric shall not be held responsible for the fail of the automatic file output.

(6) Function

- The functions and specifications may be partially changed without notice for improvement.
- Use "TG-2000A Ver.6.10 or later" when the EC-compatible AG-150A (max. 150 units controllable per AG-150A) is connected to the system.
- Use "TG-2000A Ver.6.30 or later" when the GB-50ADA is connected to the system.
- Use "TG-2000A Ver.6.40A or later" when the EB-50 is connected to the system.
- Use "TG-2000A Ver.6.50 or later" when the AE-200/AE-50 is connected to the system.

14. Maintenance and Service

For maintenance and service, please contact a Mitsubishi official sales electric office or supplier.

*Contact the local manufacturer if any faults occur in the locally prepared computer or HUB, etc.

Appendix 1: Using Charge Calculation Tool

These attached sheets describe using the charge calculation tool (Excel file) that supports the air-conditioning charge calculation for each charge block by using the air-conditioning charge proportion result output file and the value indicated by the watt hour meter.
It is possible for this tool to develop data for the air-conditioning charge calculation/bill form for each charge block, and to change the bill form.
The output charge data (CSV file) can be edited by using commercially available software.

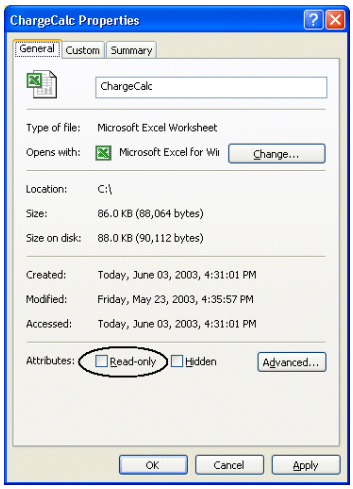
1. Preparations

The following shows the items required for charge calculation.
A power meter reading is required for the power apportioning (manual input of electric amount).

Conditions	Preparations
Power apportion billing (manual input of electric amount)	*Excel 2013/2010/2007 *Air-conditioning charge proportion result output file *Enclosed "ChargeCalc.xls" file *Necessary data (Refer to section "2.1.5" in this Appendix 1.)
Power apportion billing (electric amount pulse count/electric amount computer direct read)	*Excel 2013/2010/2007 *Air-conditioning charge proportion result output file *Enclosed "AirconCharge.xls" file *Necessary data (Refer to section "2.2.5" in this Appendix 1.)

Since the application software shown above is installed in the computer, make preparations so that it is ready to access the file shown above.

Note:
- ChargeCalc.xls and AirconCharge.xls files are used after copying it from the integrated centralized control software CD. Since it is intended for Read only, open the Property, and click the check marked for Read only located at the Attribute before using it.
- ChargeCalc.xls and AirconCharge.xls files use a macro. When the Unable to use macro message is displayed, therefore, change the macro security level so that the macro can be used.

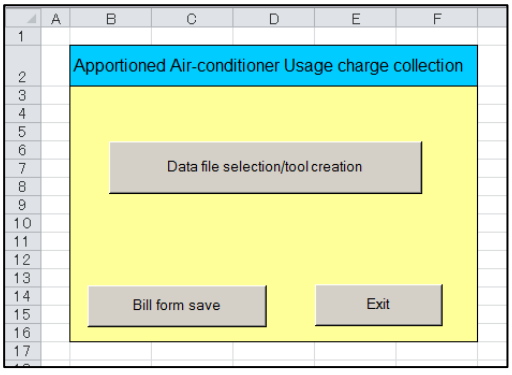


2. Charge calculation procedure

2.1 For power apportioning billing (manual input of electric amount)

The following describes the procedure to calculate the air-conditioning charge from the electric energy calculated by watt hour meter using the charge proportion output result (file) output to each charge block by the air-conditioning charge function of the integrated centralized control software.

1) Start ChargeCalc.xls file.
   Double-click ChargeCalc.xls file with Explorer to open the Excel, by which the charge calculation (manual input of electric energy) screen is displayed.
2) Select the [Data file selection/tool creation] button.
   Click the [Data file selection/tool creation] button located on the charge calculation (manual input of electric energy) screen).
   With the above step, the File open screen is displayed.



ChargeCalc.xls screen

3) Select the data file.
Select the data file to be read.

4) Select the [Open] button.
To read the data file, select the [Open] button, by which the Excel screen of "Air-conditioning charge calculation support tool from calculation proportion" is displayed automatically by the different file name.

*ChargeCalc.xls is closed, and the Excel file of the new book is created and displayed.

	A	B	C	D	E	F	G	H	I
1	**The air-conditioning charge calculation support tool from a charge ratio**								
2									
3			Air-conditioning charge	2003 Year		5 Month		Currency unit EUR	
4	Printing form object			Electric power		Charge unit price		Charge	
5	Block1	Creation	Outdoor unit	1000		20000		20000000	
6			Indoor unit	500		10000		5000000	
7									
8	Air-conditioning charge Block(Standard)								
9	Costs calculation term:5/1/2003 - 5/31/2003								
10	Block name	**Charge ratio Outdoor unit %**	**Charge ratio Indoor Unit %**	Charge Outdoor unit [EUR]		Charge Indoor unit [EUR]		Air-conditioning charge sum total [EUR]	
11									
12	Block1	**30.63**	**42.85**	6126000		2142500		8268500	
13	Block2	**17.34**	**14.29**	3468000		714500		4182500	
14	Block3	**17.36**	**14.29**	3472000		714500		4186500	
15	Block4	**17.38**	**14.29**	3476000		714500		4190500	
16	Block5	**17.29**	**14.29**	3458000		714500		4172500	
17									

Example of air-conditioning charge calculation support tool usage screen

5) Input the data of the necessary items.
In this case, input the necessary data shown below.
- Billing month
- Electric power of outdoor unit (for billing period)
  * It is necessary to inspect the watt hour meter.
- Electric power of indoor unit (for billing period)
  * It is necessary to inspect the watt hour meter.
- Charge unit price
- Currency unit

When such data is input, the air-conditioning charge result total (charge for electricity used) is displayed for each charge block.

2.2 For power apportioning billing (Electric amount pulse count/ Direct read in of power value into computer)

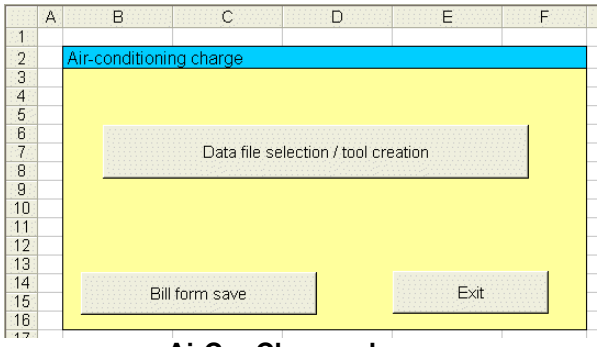
This section explains the procedures of filling out the print form for each block using the air-conditioning charge output results (file) output for each charging block by the integrated centralized control software's air-conditioning charge calculation function.

1) Start the "AirConCharge.xls" file.
Double-click "AirConCharge.xls" file with Explorer, and open up Excel. The Power apportioning billing screen opens.

2) Select the [Data file selection/tool creation] button.
Click the [Data file selection/tool creation] button on the Power apportioning billing screen. The "Open File" screen opens.

3) Select the data file.
Select the data file to be read.

4) Select the [Open] button.
To read the data file, select the [Open] button, by which the Excel screen of "Air-conditioning charge support tool" is displayed automatically by the different file name.



AirConCharge.xls screen

* Air-conditioning charge support.xls closes, and an Excel file is created and displayed in a new book.

	A	B	D	E	
1	**The air-conditioning charge support tool**				
2					
3			Air-conditioning charge		Year
4	Printing form object				
5		Creation			
6					
7					
8	Air-conditioning charge Block(Standard)				
9	Costs calculation term:5/1/2003 - 5/31/2003				
10	Block name	Apportioned Usage [kWh]	Use power rates [EUR]	Standard charge [EUR]	Air-condit
11					
12	Block1	501059	2,012,767	2	
13	Block2	201347	790,452	2	
14	Block3	201392	790,542	2	
15	Block4	201502	790,466	2	
16	Block5	201157	789,671	2	
17	Block6	199499	785,205	2	
18	Block7	198007	779,733	2	
19	Block8	194957	758,463	2	
20	Block9	0	0	2	

Example of air-conditioning charge support tool screen

5) Input the data of the necessary items.
In this case, input the necessary data shown below.
- Billing month and year

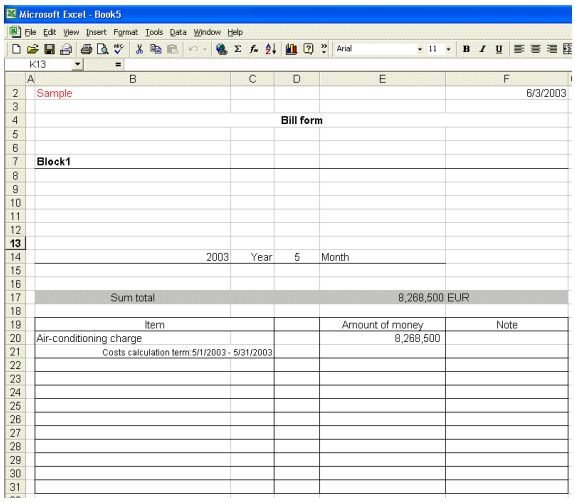
3. Method for developing printing charges

The following describes the procedure to develop the air-conditioning charge for each charge block calculated in the last chapter (Chapter 2) into an optional form.

1) Select the charge block.
Select the charge block desired to be developed into an optional form from the "Printing form object".

2) Select the [Create] button.
When the [Create] button is clicked, the following items are reflected upon the Excel file of the new book by the optional form.
- Billing date
- Charge block name: Tenant name
- Billing period
- Air-conditioning charge total (charge for electricity used)
- Unit (currency unit)

3) Input the added contents and data as required.
When the contents or data is input additionally into the Bill form of the new book, it becomes possible to print the data using the Excel function.

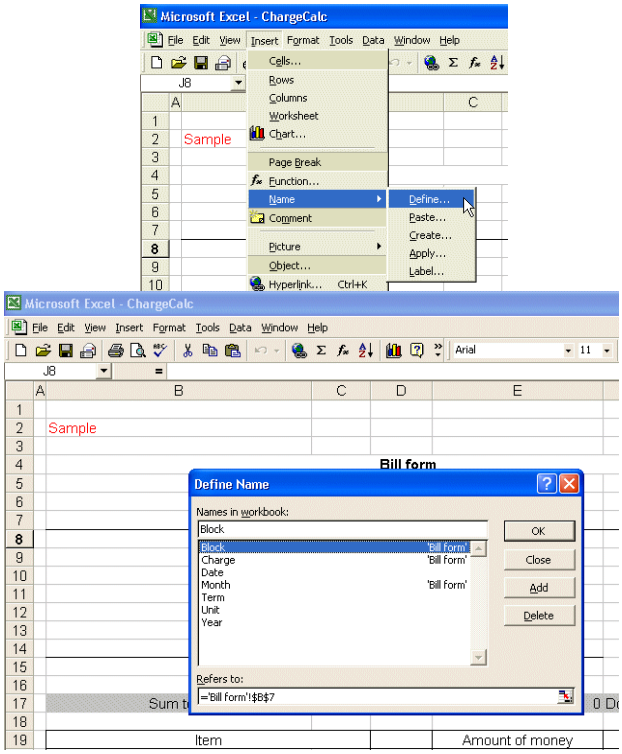


Note:
- It is possible to print the bill form sheet output to each charge block with expenses other than water, gas, and air-conditioning charges by inputting them manually.
- To display the decimal point, change the “cell setting” in Excel.

4. Change of bill form

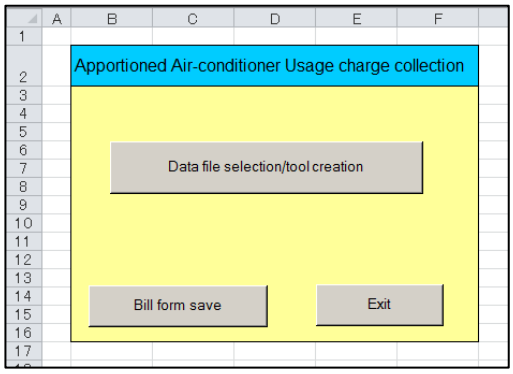
The following describes the procedure to change the Bill form output for each charge block.

1) Start the file.
   Double-click the ChargeCalc.xls or AirConCharge.xls file with Explorer to open the file using Excel, by which the charge calculation screen is displayed.
2) Select the Bill form sheet.
   Select the Bill form sheet from chargecalc.xls or AirConCharge.xls.
3) Change the bill form.
   Change the bill form so it is suitable to use.
   After changing the bill form, check the output cell position of Charge block name, Billing month, and Air-conditioning charge total, and proceed to step 4).
4) Select the [Insert], [Name], and [Define] from the menu.
   When the [Insert], [Name], and [Define] are sequentially selected from the Excel menu, the Definition of name screen is displayed, on which it is possible to change the output cell position.
5) Select the item to be changed.
   Select and click the item of the output cell to change from the following items.
   - Block (charge block name)
   - Charge (air-conditioning charge total)
   - Year (billing year)
   - Month (billing month)
   - Term (billing term)
   - Date (date of bill issued)
   - Unit (currency unit)



6) Select the output cell after selecting the reference range column.
   Click the Reference range column on the Definition of name screen, and then click the cell to be output, by which the cell to output is displayed by a dotted line in the reference range column.

7) Select [OK] button.
   When the [OK] button on the Definition of name screen is clicked, the output cell position is changed.
8) Perform steps 4) to 7) above repeatedly for the remaining items.
   Perform steps 4) to 7) for the remaining items which can be output to change the output cell position.
9) Select the HOME sheet.
   When the HOME sheet is clicked after changing the output cell, the sheet display is changed.
10) Select the [Bill form Save] button.
    When the [Bill form Save] button located on the HOME sheet is clicked, the bill form changed is saved.
11) Select the [Exit] button.
    Click the [Exit] button located on the HOME sheet to close the file.



Note:
- When the Bill form is changed, be sure to click the [Bill form Save] button to save the data. Note that the software is terminated without saving the bill form when the [Data file selection/tool creation] button is clicked after changing the form.

Appendix 2: Using Trend Graph Display Support Tool

This appendix explains a support tool that displays trend graphs, using the CSV output files of the trend and peak-cut data.
This support tool displays simple trend graphs. Other tools can be used to display more detailed trend graphs.

1. Preparation

Prepare the following items to display the trend graphs.

- Excel 2013/2010/2007
- Trend data or peak cut data output file
- Enclosed "TrendGraph.xls" file

The above application and software are installed in the computer.
Enable it so that the above file can be accessed.

Note:

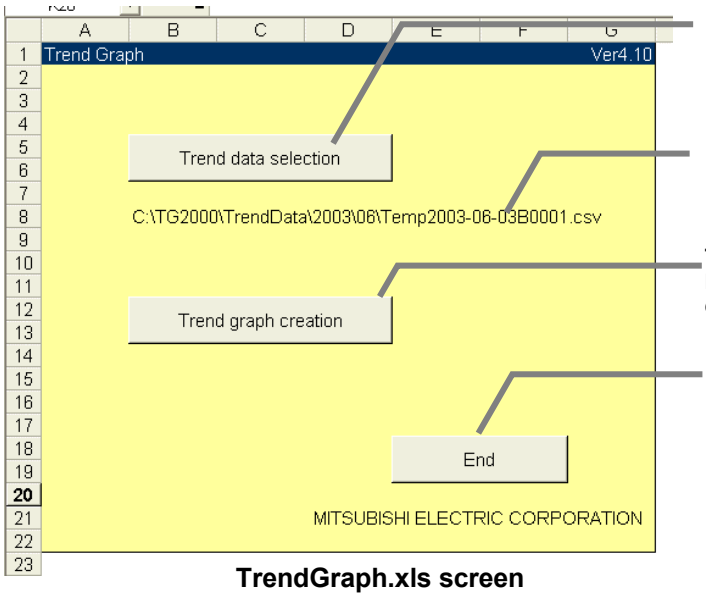
- Disable the "Read-only" check in the Properties for the "TrendGraph.xls" file.
- The "TrendGraph.xls" file uses macros. If a message indicating that macros cannot be used appears, change the macro security level to enable the macros.
- “Trend Graph.xls” can display the following data in graph form based on the trend data “Temp., on/off, drive, mode" and “Peak cut" (CSV files).
  Supply temperature of air conditioning units
  Watt hour meter reading (cumulative)
  Peak cut (daily report)
  Peak cut (monthly report)
  *The Peak cut (monthly report (Control level)) data cannot be displayed in graph.

2. Trend graph display procedures

Display the trend graph using the integrated centralized control software's trend or peak cut data output file.

1) Start the "TrendGraph.xls" file.

The Trend graph main screen opens when the "TrendGraph.xls" file is opened with Excel.


Trend Graph
Ver4.10
Trend data selection
C:\TG2000\TrendData\2003\06\Temp2003-06-03B0001.csv
Trend graph creation
End
MITSUBISHI ELECTRIC CORPORATION
Trend data selection button
Select the trend data or peak cut data file.
Selected file display
Display the selected trend data or peak cut data file.
Trend graph creation button
Display the trend data or peak cut data in a trend graph.
End button

TrendGraph.xls screen

2) Select the [Trend data selection] button

The "Open File" screen opens when the [Trend data selection] button is clicked.

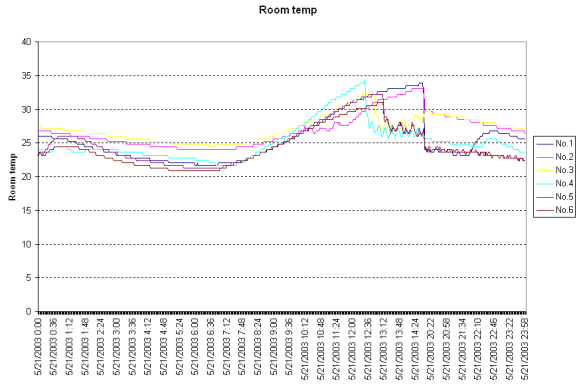
3) Select the data file.

Select the data file from which the data is to be imported. The selected file name appears.

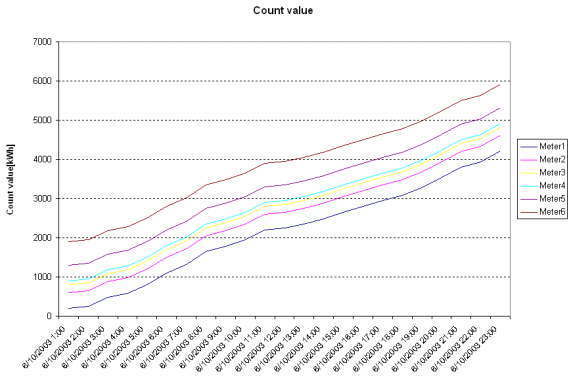
4) Select the [Trend graph creation] button.

The Trend graph screen appears automatically in another Excel file when the [Trend graph creation] button is clicked.

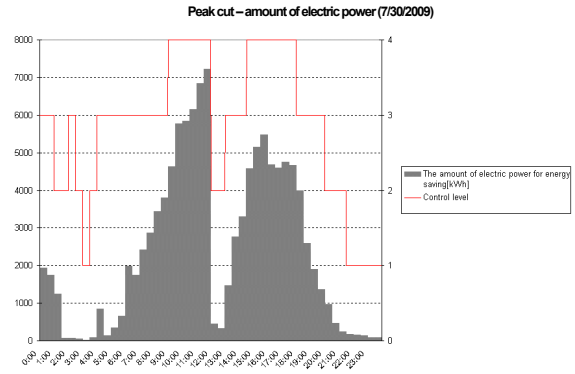
Examples of screens showing the trend graphs are shown below.



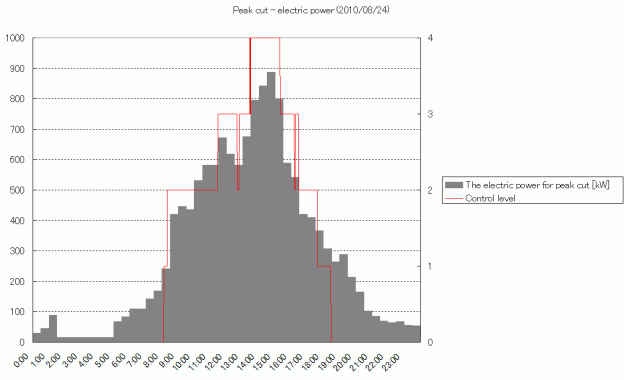
Example of intake temperature trend graph



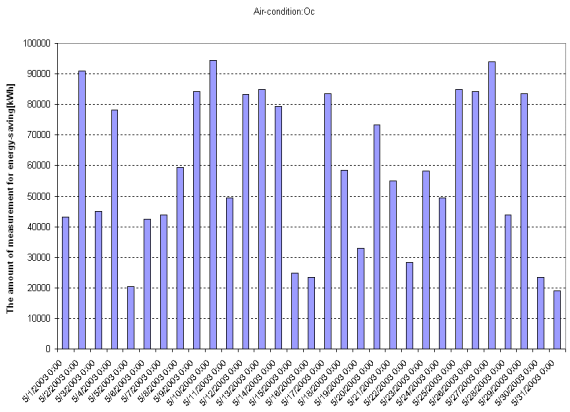
Example of WHM trend graph



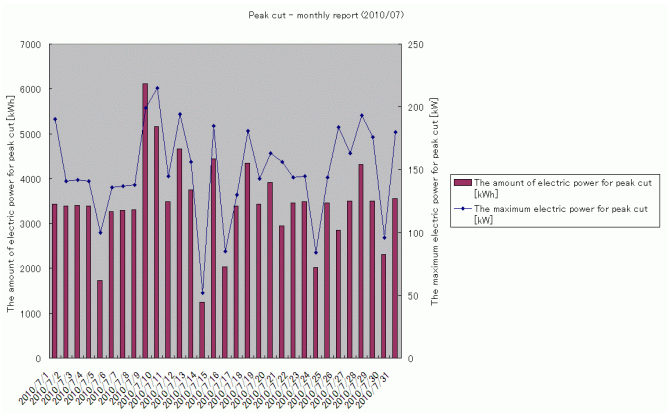
Example of peak cut (daily report) trend graph



Example of peak cut (daily report (Electric power)) trend graph



Example of peak cut (monthly report) WHM trend graph


Peak cut – monthly report (2010/07)
The amount of electric power for peak cut [kWh]
The maximum electric power for peak cut [kW]
The amount of electric power for peak cut [kWh]
The maximum electric power for peak cut [kW]

Example of peak cut (monthly report) trend graph

[Modification list]

Ver.	Category	Item	Contents	Page/Section
X23	New function	Group Schedule Available/Not Available	An item "Schedule Available/Not Available" has been added.	P22 Section 6.3 P51 Section 7.6
	New function	Ventilation mode	Explanations of ventilation mode buttons on the Air-conditioner setting screen were added.	P27 Section 6.4 P34 Section 7.1
	New function	Schedule	Five types of weekly schedule patterns are available instead of two.	P33 Section 7
	New function	Energy monitoring	The message that appears when the Energy monitoring file was not automatically output was added.	P57 Section 8.2 P68 Section 8.5.4
	New function	Trend	The “Trend” function of Lossnay group was added.	P78 Section 8.7
	Modification	Notes on PC	System requirements for the PC were added.	P3 Section 2.1
	Modification	Usage caution	Items to be checked before starting operation were added.	P4 Section 2.2 P5 Section 2.3
	Modification	History	Explanations of how to view the history were added.	P52 Section 8.1
	Modification	Unit normal/abnormal	Details of Unit normal/abnormal display were added.	P65 Section 8.5.1
X24	New function	EB-50	A new function was added to support EB-50 connection.	–Term description-- P51 Section 7.6 P78 Section 8.7
	New function	Excel 2013	A new function was added to support the use of Excel 2013.	P130 Appendix1 P135 Appendix2
	New function	New model	A new function was added to allow limited connection of HWHP (CAHV). Error monitoring only on TG-2000A.	P108 Section 11.1
	New function	Prohibit operation	“Air direction,” “Fan speed,” and “Timer” were added as options for “Prohibit operation.”	P27 Section 6.4
	New function	Dual set points	A new function was added to enable the connection of indoor units that support the dual set point function.	P27 Section 6.4 P33 Section 7
	Modification	Error code	Error codes 01**, 6204, and 6205 were added.	P57 Section 8.2
X25	Modification	TG-2000A Version	Changed TG-2000A version.	–Term description--
X26	New function	Windows 8.1 Pro	Supported Windows 8.1 Pro.	–Term description— P3 Section 2, 他
	New function	AE-200, AE-50	A new function was added to support AE-200 and AE-50 connection.	–Term description— P3 Section 2, 他
	Modification	Error code	Error code 2613 was added.	P56 Section 8.2
	New function	External input for peak cut	A new function was added to set peak cut control using external input from centralized controllers.	P121 Section 11.8
X27	Modification	Note	Add a Note	P21 Section 6.3 P65 Section 8.5
X28	Modification	Screen saver	Changed to not use the screen saver.	P5 Section 2.3

MEMO

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